Summary Proceedings

OF THE

Thirty-sixth Meeting

OF THE

Indian Central Cotton Committee, Bombay,

HELD ON THE

25th and 26th January 1938.

[Price Re 1]

APPENDICES

Present:

Sir Bryce Burt, C.I.E., M.B.E., I.A.S. (*President*).
Sir Purshotamdas Thakurdas, C.I.E., M.B.E. (*Vice-President*).
Dr. W. Burns, D.Sc., I.A.S.,
Mr. P. H. Rama Reddi, I.A.S.,
Mr. W. J. Jenkins, I.A.S.,
Mr. P. B. Richards, I.A.S.,
Mr. H. R. Stewart, I.A.S.,
Mr. J. C. McDougall, I.A.S.,
Mr. S. D. Saklatvala, M.L.A.,
Mr. M. S. Durutti,
Mr. Chandulal P. Parikh, M.L.A.,
Mr. Kasturbhai Lalbhai,
Mr. J. Vonesch,
Mr. W. Roberts, C.I.E.,
Mr. P. V. Deshmukh,
Mr. D. K. Kane,
Mr. Balak Ram,
Sir Chunilal V. Mehta, K.C.S.I.,
Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
Rao Bahadur C. S. Shirahatti,
Khan Bahadur Shah Nazar Husain,
Sardar Sahib Gurbachan Singh, M.L.A.,
Mian Nurullah, M.L.A.,
Rao Bahadur Sir Madhaorao Deshpande, K.B.E.,
Mr. M. P. Kolhe,
Mr. Nizam-ud Din Hyder,
Mr. R. G. Allan, C.I.E.,
Mr. G. K. Lele,
Mr. T. R. Low, I.A.S.,
Dr. V. K. Badami,
Mr. V. Ramanatha Ayyar,
Rai Bahadur S. V. Kanungo,
Rao Saheb K. I. Thadani,
Dr. B. L. Sethi,
Mr. Sayed Miran Mohammad Shah, M.A.C.,
Mr. Roger Thomas,
Lala Shri Ram,
Mr. Chellaram Shewaram,
Dewan Bahadur Sir T. Vijayaraghavacharya, K.B.E.,
Mr. H. B. Rajdev,
The Secretary (Mr. D. N. Mahta),

The Director, Technological Laboratory (Dr Nazir Ahmad),

The Publicity Officer (Mr R D Mihra) and

The Assistant Secretary (Mr C J Bocarro),

By invitation

The Hon'ble Mr Morarji R Desai, Minister for Revenue and Agriculture, Government of Bombay,

Dr T E G Gregory, Economic Adviser to the Government of India,

Mr A M Livingstone, Agricultural Marketing Adviser to the Government of India,

Mr P S Rau, I C S, Director of Land Records, Central Provinces and Berar,

Mr E F G Gilmore, Director, Industrial Research Bureau, Indian Stores Department,

Mr Mazhar Husain, Director of Statistics H E H the Nizam s Government,

Mr J N Gosh Deputy Director of Statistics, Department of Commercial Intelligence and Statistics,

Mr Jamnadas Ramdas, C/o Messrs Dossa & Co, 397, Marwari Bazar, Bombay,

Mr R G Saraiya, C/o Messrs Narandas Rajaram & Co, Bombay,

Mr T B Dalal, Secretary, Karachi Cotton Association, Ltd, Karachi,

Mr K Ramiah Geneticist & Botanist, Institute of Plant Industry, Indore,

Prof R H Dastur, Plant Physiologist, Lyallpur,

Mr Mohammad Afzal, Cotton Research Botanist, Lyallpur,

Mr G R Ambekar, Provincial Officer in charge, Bombay Cotton Forecast Improvement Scheme

Letters or telegrams were received from the following members egretting their inability to attend the meeting —

Mr J Tinker,

Mr J Nuttall,

Mr Akhil Bandhu Guha,

Rai Bahadur Lala Anand Sarup,

Rao Bahadur S S Salimath

President's Speech

GENTLEMEN,

It is my privilege to day to open the 36th meeting of the Indian Central Cotton Committee and to extend on your behalf a cordial welcome o several visitors and to our new members We have with us to day Ir Gregory, Economic Adviser to the Government of India who has ecently arrived in this country but who is known to many of us as an conomist of international reputation We are glad to see him amongst is and trust that the contacts which he will establish will be of mutual dvantage Mr Livingstone, Marketing Adviser to the Government of India, has kindly come at our invitation to assist us in the discussion of several matters connected with cotton marketing

both the Provincial Agricultural Department and this Committee have devoted much effort and a good deal of money

The Indian Central Cotton Committee at its last meeting approved generally of the suggestion of the Agricultural Research Sub Committee that a scheme for a marketing survey of cotton should be undertaken by the Committee and at our request Mr Livingstone Agricultural Marketing Adviser to the Government of India, has kindly drawn up a comprehensive scheme for our consideration A Sub Committee has considered this scheme and its recommendation that it should be referred to commercial bodies for opinion is now before us Two smaller marketing schemes have been examined in Sub Committee and recommended for grants

At our meeting in March last we considered representations made by the cotton trade in Bombay regarding the hardships experienced [illegible] on 14 of the Cotton Ginning and [illegible] of which was urged on the ground [illegible] contracts were penalised for the [illegible] ry owners who themselves escaped [illegible] tion 14 of the Act gives the right to any purchaser to stipulate that only bales marked in accordance with the Act shall be supplied in fulfilment of a contract, it constitutes *the real sanction of the Act and we did not consider the* repeal of the Section feasible It was recognised, however that the difficulties of the trade were real and that steps should be taken to overcome them After informal consultations the Local Sub Committee has now proposed to the Government of India that an amendment of Section 14 of the Act, combined with an amendment of the bye laws of the East India Cotton Association which this would render possible, should meet the situation

One subject on the Agenda of more than ordinary interest is the change in the time, from 1 p m to 10 30 a m of the broadcast of cotton prices This change has been made by the Government of India as a result of our representations and its object is to enable cotton prices to be broadcasted in certain cotton markets for the benefit of growers using those markets Arrangements for the installation of suitable receiving sets have been made with the Controller of Broadcasting, the *names of suitable cotton markets where receivers should be installed*, have been communicated to the Government of India in accordance with the recommendations of your Standing Finance Sub Committee and it is hoped that the experimental scheme will shortly be in operation

The Local Sub Committee's examination of the question of the wide parity between Broach and American cotton during 1936 37 has resulted in a well reasoned exposition of the matter by the East India Cotton Association which will be of much help to us

Several new agricultural and seed distribution schemes will come up for your consideration and it will immediately be apparent that in spite of all that has been done, and is being done, to solve the many cotton problems of the country, much work still lies ahead of us New problems are constantly springing up which will demand our attention so long as cotton dominates the agricultural and industrial life of a large portion of this country I should like to make a reference to the readiness

and generosity with which the Empire Cotton Growing Corporation gave us the services of their Physiologist, Dr. Mason, F. R. S., in connection with our investigations into the causes of the periodical partial failures of Punjab-American cotton in certain years—failures which meant diminished yields and poor quality cotton. As many of you are aware, Dr. Mason spent four months at Lyallpur working on this problem with Professor Dastur at a very trying time of the year. His report contains definite and helpful conclusions and indicates several promising lines of future work. At a later stage of our proceedings we shall have before us a resolution, proposed by the Agricultural Research Sub-Committee, conveying our appreciation and thanks to the Empire Cotton Growing Corporation.

Though we have a formidable agenda our task has been considerably lightened by the examination of many subjects by the various Sub-Committees which met during the last few days. Both on your behalf and my own, I wish to acknowledge our indebtedness to the members of these Sub-Committees and to the Finance and Local Sub-Committees, who have dealt so ably with our day to day administration and with many urgent matters. Gentlemen, I will not detain you longer from the work before us.

SUBJECT 2.—*Confirmation of Minutes.*

The Minutes of the previous meeting were confirmed.

SUBJECT 3.—*Retirement of members by rotation.*

The Secretary's note giving the list of members due to retire on completion of their three-year term of membership, was recorded.

SUBJECT 4.—*Appointment of Vice-President and Sub-Committees.*

Sir Chunilal V. Mehta was elected Vice-President for the year 1938-39.

The Committee placed on record its great appreciation of the work of Sir Purshotamdas Thakurdas as Vice-President of the Committee over a period of five years.

The following Sub-Committees for 1938-39 were then re-constituted :—

Standing Finance Sub-Committee.

The President (*ex-officio*),
The Vice-President,
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. J. Vonesch,
Mr. Kasturbhai Lalbhai,
Mr. M. S. Durutti,
Rao Bahadur Sir Madhaorao Deshpande, and
Mr. W. J. Jenkins.

Cotton Ginning and Pressing Factories Sub Committee

The Vice President,
Sir Purshotamdas Thakurdas,
Mr S D Saklatvala,
Mr M S Durutti
Mr J Vonesch,
Mr Kasturbhai Lalbhai
Mr J Nuttall
Mr W Roberts,
Mr J Tinker,
Mr P V Deshmukh
The Co operative Banking Representative (*ex officio*)
Mr W J Jenkins,
Mr Chellaram Shewaram, and
Mr Balak Ram

Local Sub Committee

The President,
The Vice President,
Sir Purshotamdas Thakurdas
Mr S D Saklatvala,
Sardar Rao Bahadur Bhimbhai Ranchodji Naik
Mr J Vonesch,
Mr M S Durutti,
Mr Kasturbhai Lalbhai
Mr Chandulal P Parikh,
Rao Bahadur Sir Madhaorao Deshpande
Mr W J Jenkins, and
(One vacant)

Agricultural Research Sub Committee

I The President (*ex officio*),
II The Vice President (*ex officio*),
III The Co operative Banking Representative (*ex officio*),
IV Cotton Growers Representatives —Sardar Sahib Gurbachan Singh,
Mr Roger Thomas,
Mr W Roberts
Rao Bahadur Sir Madhao rao Deshpande
V Cotton Trade Representatives —Mr Kasturbhai Lalbhai,
Mr D K Kane,
Mr Chandulal P Parikh
Sir Purshotamdas Thakurdas

The Director of Land Records, Central Provinces and Berar,
The Deputy Director of Statistics,
The Statistical Officer to the Director of Industries, Madras, and
Mr. J. Vonesch.

Wider Markets Sub-Committee.

The President,
The Vice-President,
Sir Purshotamdas Thakurdas,
Dewan Bahadur Sir T. Vijayaraghavacharya,
Mr. H. R. Stewart,
Mr. P. B. Richards,
Dr. W. Burns,
Mr. W. J. Jenkins,
Rao Saheb K. I. Thadani,
Mr. Nizam-ud-Din Hyder,
Mr. S. D. Saklatvala,
Mr. J. Vonesch,
Mr. Chandulal P. Parikh,
Mr. P. V. Deshmukh,
Mr. Balak Ram,
Sardar Rao Bahadur Bhimbhai Ranchodji Naik,
Mr. P. H. Rama Reddi,
Mr. J. C. McDougall,
Mr. W. Roberts,
Seth Isserdas Varindmal,
Mr. Kasturbhai Lalbhai,
Mr. Sayed Miran Mohammad Shah.
Mr. M. S. Durutti,
Dr. Nazir Ahmad, and
Mr. R. G. Saraiya—Additional Member.

SUBJECT 5.—*Proposal for holding a cold weather meeting of the Committee at Lyallpur.*

In pursuance of a resolution passed by the Committee in March 1937 it was decided to hold the next cold weather meeting of the Committee at Lyallpur in the middle of November. It was also agreed that the next monsoon meeting should be held as early as possible in July in order to leave a reasonable gap between the next monsoon and cold weather meetings.

SUBJECT 6.—*Half-yearly Report of the Publicity and Propaganda Officer.*

The half-yearly report of the Publicity and Propaganda Officer was recorded.

SUBJECT 7 —*Establishment of regulated cotton markets in the Madras Presidency*

It was noted with regret that the Tirupur cotton market was still the only regulated cotton market in the Madras Presidency It had taken eleven years for that market to be established and it was still not known when even a second one would be added

SUBJECT 8 —*Third Annual Report of the Lancashire Indian Cotton Committee—Letter from Secretary Lancashire Indian Cotton Committee*

In accordance with the decision arrived at at the last meeting of the Committee the Lancashire Indian Cotton Committee had been asked to supply information as to what varieties of Indian cotton were used by Lancashire mills As they were unable to collect the required information the matter was again placed before the Committee for opinion as to whether they still considered that such details were really necessary The general opinion was that information of this kind would be useful if it could be obtained without much difficulty

During the discussion it was suggested that the Lancashire Indian Cotton Committee might be requested to say whether Indian cotton was used by itself or mixed with other varieties of cotton The President in explaining the position said that the recent increase in consumption of Indian cotton in Lancashire was due to three causes In the first place Punjab Americans and similar cottons had taken the place of American cotton in existing mixings Secondly some spinning mills were using a comparatively high percentage of Punjab and Sind American mixed with American Thirdly, short staple Indian cottons had begun to be used increasingly for purposes other than those for which they were used before largely as a result of the work of the Shirley Institute Short staple Indian cotton was now also being used as a substitute for Egyptian cotton waste Lastly Indian cotton had found a new use in the manufacture of cotton sweaters and similar materials He hoped that the next report of the Lancashire Indian Cotton Committee would give further valuable information.

SUBJECT 9 —*Disposal of improved varieties of cotton grown under the immediate supervision of Agricultural Departments—Reference from last meeting*

At the last meeting the Committee considered [illegible] proved varieties of cotton grown under the [illegible] the Agricultural Departments should be [illegible] auction It was argued that at auctions [illegible] cularly Jayawant cotton in the Karnatak [illegible] middlemen for mixing with inferior cotton [illegible] as genuine improved cotton with the [illegible] cotton while the reputation of the [illegible] As the proposal did not find much favour [illegible] [illegible] so far [illegible] on [illegible] addressed to find out whether they [illegible] tion for financing the production of [illegible] the mills to get the desired quantities [illegible] suggestion however, did not [illegible]

Accordingly, the Director of Agriculture, Bombay, placed for consideration of the Committee certain proposals for maintaining the purity of Jayawant cotton in the Karnatak, where the practice of mixing was rampant. Discussion centred round three points, *viz*:—(1) the enforcement of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, in the Karnatak. (2) Government supervision of ginning and pressing of Jayawant cotton sold in auction sales, and (3) the application of the Cotton Control Act to areas in the Karnatak where "New Cross" cotton was spreading.

In regard to the first point it was suggested that the portion of the Act pertaining to mixing might with advantage be tried in the area where the inferior "New Cross" cotton was spreading. The difficulty in giving effect to the second point lay in the cost involved. As regards the third suggestion, the view was expressed that it would be premature to apply drastic measures as "New Cross" cotton was being gradually given up by the cultivators on account of its susceptibility to wilt.

It was pointed out that as a result of enforcement by the Central Provinces Government of the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act during the current season, cotton coming from the Central Provinces and Berar was now much sought after and that, therefore, the Bombay Government should be urged to follow the good example of the Central Provinces Government by applying the Act to the Presidency right from the beginning of the next season.

It was accordingly agreed that the Bombay Government should be asked to speed up the introduction of rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act from the beginning of the next cotton season.

As regards Government supervision of ginning and pressing of Jayawant cotton sold in auction sales, a proposal was made that bales of such pure cotton should be marked with a special stencil mark and that the extra-expenditure involved on this account should be borne by the Committee. Great importance was attached to this proposal of marking bales of pure cotton, but it was ponited out that legislative protection would be necessary to prevent the misuse of the stencils. It was suggested, however, that the Agricultural Produce (Grading and Marking) Act could be utilized for this purpose if cotton was included in the schedule under the Act.

The view was expressed that the Cotton Ginning and Pressing Factories Act was a sufficient safeguard against mixing and that the Committee should not spend any money on the marking of bales. Against this, however, it was suggested that if by protecting the purity of a cotton, the farmer got better value for his produce there was no reason why a small charge should not be made on the grower at the time of auction of *kapas*.

It was pointed out that if cotton was to be marketed pure and with a guarantee, a small expense, compared with the total bulk of the crop involved, was justified. The proposal relating to Jayawant cotton was intended to see whether legislation was going to be effective or not.

After some discussion the Committee agreed that legislative protection for the marks was necessary and that once this was obtained the experiment of marking bales could be tried in limited areas It was also decided that the Director of Agriculture Bombay should be authorised to put up specific proposals at the next meeting on the question of marketing Jayawant cotton in the Karnatak

SUBJECT 10 —*Post mortem examination of cotton forecasts of 1936 37 season*

SUBJECT 13 —*Report* of the Cotton Forecast Improvement Sub Committee*

The examination of the data collected by the Committee regarding the village consumption of cotton in India gave a much lower figure than the conventional estimate of 7[illegible]0 000 bales hitherto assumed for the purpose of reconciling the estimate of forecasted production with the actual crop arrived at from trade returns In examining the accuracy of the forecasts two separate checks were applied The examination relating to the 1936-37 crop showed that the forecast was an underestimate by a million bales even after taking the revised figure of 443 000 bales of cotton for extra factory or village consumption. The Cotton Forecast Improvement Sub-Committee examined the distribution of the error among the various Provinces and State There was a big difference in the Punjab but the position was likely to improve as the Provincial Government were introducing revised standard yield figures for cotton from 1938-39 a very careful examination having shown that the present standard yield figures were too low It was also pointed out that in Bombay with the help of a grant from the Committee the problem of cotton forecasts was being thoroughly examined and already revised standard yield figures had been formulated which would be applied to the forecasts of 1937-38

Reference was made to the recommendation of the Cotton Forecast Improvement Sub Committee for a grant of Rs 1,[illegible]0 to the Punjab Agricultural Department for a statistical examination of the available data with a view to fixing new standard yield figures for the different districts in the Punjab It was explained that Government published quinquennially a statement showing the standard yields for the various principal crops In the case of cotton in the Punjab separate figures were given for irrigated and unirrigated cotton and for desi and American cotton The report for the quinquennium ending 1936-37 was due to be issued shortly and the data were ready for all crops other than cotton For cotton a check on forecasted production was possible through the pressing returns A very close examination of the data of the last ten years had revealed that while the last quinquennial average standard yield for cotton in the Punjab was equivalent to 4 [illegible]2 mds of *kapas* per acre the actual average output during the quinquennium ending 1936 37 based on the figures of cotton pressed, was [illegible] mds of *kapas* more per acre than that figure If village consumption were taken into account the actual output per acre would be further raised by a maund of *kapas* From the data regarding cotton pressed there would be no difficulty in laying down the provincial standard yield but difficulties arose when the corresponding district figures had to be fixed and those separately for irrigated and unirrigated cotton and for

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* Appendix II page 4[illegible]

desi and American cotton. The grant was required for engaging a Statistician to examine the mass of available data and to formulate the detailed standard yield figures.

The report of the Cotton Forecast Improvement Sub-Committee was adopted.

SUBJECT 11.—*Policy to be adopted in regard to new schemes for the propagation of long staple cotton in India—Reference from the last meeting.*

The consideration of the subject was postponed.

SUBJECT 12.—*Cotton Ginning and Pressing Factories (Bombay Amendment) Act*—Draft Rules framed by the Sind Government.*

It was observed that the Sind Rules were somewhat different from the Bombay Rules. The hope was expressed, however, that the Sind Legislature would not water down the rules further.

One member pointed out that the fee for the licenses under the Bombay Rules was Rs. 250 against Rs. 400 fixed for combined gins and presses under the Sind Rules. He thought that arrangements should be made for cotton to be tested at Karachi also for moisture content before the rules were passed. In reply it was suggested that the Sind Rules relating to license fees had perhaps been framed to suit local conditions. The idea of postponing the introduction of the Rules till a moisture testing house was set up at Karachi was opposed on the ground that sealed samples could easily be sent to the Technological Laboratory at Bombay for tests.

Regarding Rule 3 (1) (*b*) it was stated that factory owners were likely to be harassed since there was no method by which it could be ascertained whether short staple American found in mixtures of American above $\frac{7}{8}''$ had been deliberately put into a bale or whether it was from the plant itself. It was therefore urged that rule 3 (1) (*b*) should not be put into operation until further experience had been gained.

This was opposed on the ground that the grower could easily distinguish between the fuzzy seed of *Sind Sudhar* and the naked seed of 4F. *Sind Sudhar* would be wiped out of the market if the Rule in question was left out. The Rules would be administered with latitude and amendments made as experience was gained.

After some discussion the Committee agreed (1) that the summary of the discussion on the subject should be sent to the Sind Government, (2) that the sooner the Act was put into operation the better and that the rules should be put into a form that would enable this to be done as soon as possible, (3) that the mixing of *Sind Sudhar* with other varieties of American types should be stopped, (4) that no difficulty was expected in detecting high percentages of mixtures, as particularly all commercial cotton contained a certain amount of seed which would show very clearly whether it was *4F* or *Sind Sudhar*, and (5) that the actual drafting of the rules was best left to the Sind Government.

SUBJECT 14.—*Summary of proceedings of the Local Sub-Committee.*

The report† of the Local Sub-Committee was recorded.

* Appendix I (page 46). † Appendix III (page 49).

SUBJECT 15 —*Publicity and Propaganda—Resolution to be moved by Rao Bahadur Sir Madhaorao Deshpande*

The following resolution was moved by Sir Madhaorao Deshpande —

"The Indian Central Cotton Committee recommends that the amount spent on the Publicity Section at Bombay should hereafter be distributed among the Provincial Governments for propaganda and publicity work through Agricultural Departments

In explaining the resolution it was pointed out that although the present Publicity Section had brought to the notice of the cultivators the results of schemes financed by the Committee through leaflets and other propaganda work, experience had shown that the Publicity Section had not been of any material advantage to the cotton growers The Agricultural Department in each province carried on propaganda activities itself but the staff was not sufficient for the purpose If the money spent by the Committee on the Publicity Department *viz*, about Rs 40 000 per annum were given to the Agricultural Departments, it could be used more advantageously

It was contested however that the resolution was a step in the wrong direction The amount that each Province would get under this proposal would be too little to be of any use for effective publicity

The resolution was put to vote and lost

SUBJECT 16 —*Periodical reviews of the state of foreign trade in Indian Cotton*

As a result of a scheme recently sanctioned by the Committee, the Director General of Commercial Intelligence and Statistics supplies the Committee with reviews of the state of foreign trade in Indian cotton The first review was considered by the Wider Markets Sub Committee and was found to contain very useful information particularly regarding imports into foreign countries The Sub Committee recommended that subject to the approval of the Director General of Commercial Intelligence and Statistics, the reviews should be circulated among cotton trade associations

The report of the Wider Markets Sub Committee was adopted

SUBJECT 17 —*Report* of the Wider Markets Sub Committee*

SUBJECT 28 —*Proposed New Research Schemes* —

(c) *Scheme for a cotton marketing survey in the Punjab*

SUBJECT 42 —*Proposed Scheme for a marketing survey of cotton*

SUBJECT 58 —*Possibility of increasing exports of Indian cotton to European countries—Note by the President*

SUBJECTS 28 (c) *and* 42 —

It was observed that the scheme under subject 28 (c) related to the Punjab Its cost was estimated at Rs 6 719 spread over a period of 15 months The bigger scheme proposed in item 42 which was an all India marketing survey of cotton, involved a much longer period and its cost was estimated at Rs 2,30,700

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* Appendix IV (page 51)

The Wider Markets Sub-Committee had recommended that the Punjab scheme be sanctioned and that the all-India scheme be referred to commercial bodies for opinion.

With regard to the second scheme it was urged that in view of the importance of the cotton crop to the country a detailed all-India survey was necessary. The survey involved a study of various commodities, *viz.*, *kapas*, lint, pressed cotton, cotton seed and cake. Although the Punjab scheme was good in itself, its scope was limited because big mill centres and the terminal markets for the Punjab, *viz.*, Karachi and Bombay were outside the Province. The expenditure on the Punjab survey naturally could not be taken as a guide to a comprehensive all-India scheme.

It was pointed out that at the last meeting the Committee had expressed itself as being in favour of a comprehensive all-India cotton marketing survey and, therefore, Mr. Livingstone had prepared the scheme on the lines of the surveys on wheat, rice and linseed, etc. Such surveys were necessarily expensive because a great deal of ground had to be covered. The most important point was that if the Committee decided to undertake an all-India maketing survey for cotton, it must be well done.

The report of the Wider Markets Sub-Committee was adopted.

SUBJECT 58 :—

The note on this subject was put up as the result of an undertaking given by the President some time ago to obtain information from the Government of India regarding the position of exports of Indian cotton to Europe. The note traced the course of India's cotton trade with European countries from 1932-33 to 1936-37 and the progress made in the development of substitutes for raw cotton in Germany and Italy. As regards barter arrangements, clearing and trade agreements and the like, reference was made to the series of press *communiqués* issued by the Government of India in 1936 as a result of a special and continuous study of the general question of commercial and economic policy affecting India's trade. It was pointed out that questions connected with India's export trade in cotton were being continuously studied.

A suggestion was made that it might be worthwhile bringing to the notice of the public how the export of Indian cotton to European countries during the last five years had expanded compared with the export to the United Kingdom because the general belief was that while the United Kingdom had taken considerably large quantities of Indian cotton, exports to other European countries had not expanded in the same ratio.

In reply it was stated that the public were well aware of the position; while the total exports to all European countries other than the United Kingdom, had increased from 826,000 bales in 1933-34 to 997,000 bales in 1936-37, exports to the United Kingdom had risen from 200,000 to 600,000 bales during the same period.

It was urged that the information as given in the note should be brought to the notice of the general public. This was agreed to.

SUBJECT 17.—

The full report of the Wider Markets Sub Committee was adopted

SUBJECT 18—*Technological Research—Scheme for research into the improvement of cotton ginning machinery and the use of cotton openers—Reference from last meeting of the Committee*

SUBJECT 19—*Technological Research—Progress Report of the Director, Technological Laboratory*

SUBJECT 20—*Technological Research—*Report of the Technological Research Sub Committee*

The progress report of the Director, Technological Laboratory, was approved

The scheme for research into the improvement of cotton ginning machinery and the use of cotton openers, which involved a cost of Rs 82 000 had been considered by the Technological Research Sub Committee The experiments under the scheme were proposed to be carried out at the British Cotton Growing Association s factory at Khanewal The Sub Committee had appointed a small Sub Committee to draw up an alternative scheme for investigation of the problem at the Technological Laboratory

It was urged that as the problem of cleaning *kapas* was very important in Sind as well as in the Punjab the experiments should be carried out in both these Provinces preferably in a Government or private ginnery

This was, however, opposed on the ground that the object of the scheme was to find out a gin which would be best suited to all Indian cottons A research of this nature could be carried out successfully only by mechanists in consultation with practical ginners It was for this reason that the Sub Committee had decided that such experiments should be undertaken at the Technological Laboratory, which had all the necessary facilities The Special Sub Committee appointed would examine the problem fully and put up proposals showing how it could best be tackled at minimum cost

A suggestion was made that in the investigation prominence should be given to openers in particular, as this was probably the biggest problem for growers and ginners

The report of the Technological Research Sub Committee was adopted

The President drew attention to the proposal to include a further sum of Rs 11,000 in the Technological Laboratory budget for experiments on the manufacture of artificial silk from linters, cotton waste and short staple cotton This sum would restore the balance of the available grant for the investigation to Rs 30 000 The proposal was that a pilot plant should be installed to find out the exact price at which chemical cotton could be produced in India

It was observed that, whether the viscose or the acetate process was adopted finally, in India, for the production of artificial silk, one of the

* Appendix V (page 56)

constituents required was cotton linters. In the viscose process the world in general was using 70 per cent. of wood pulp and 30 per cent. of chemical cotton from linters. The U. S. A. had specialised in the production of chemical cotton from linters. In the case of the acetate process all manufacturers were using 100 per cent. chemical cotton. For the acetate process, the raw materials required for the manufacture of artificial silk were available in plenty in India.

Some members held that if the sum of Rs. 30,000 should be found to be insufficient it should be supplemented by additional grants. In view of conflict in the Far East and its possible effect on the common wellbeing of the cotton grower, the opinion was expressed that the Committee would be wise to divert its efforts towards finding other uses for cotton, cotton waste and linters available in the country.

In reply to the contention that as the methods of production of artificial silk were well-established and widely known, there was no necessity to install a pilot plant for the manufacture of rayon, it was pointed out that experiments right up to the spinning and finishing stage were desirable, as certain items such as the recovery of acetone and bisulphide under the climatic conditions prevailing in this country, required to be investigated before the costs could be worked out with any degree of accuracy. Further. the question of difference in the quality and lustre of rayon produced from wood pulp and cotton and their effect on prices required to be investigated.

It was argued that the question at issue was whether the required raw materials were available in this country at a reasonable price. As regards the use of short staple cotton for the manufacture of artificial silk, the interim reports of the Director, Industrial Research Bureau, indicated that unless cotton could be had at or about Rs. 70 a candy the scheme was not likely to succeed.

The President pointed out that the report of the Director, Industrial Research Bureau, showed that, from the point of view of cost no hope could be entertained regarding the manufacture of artificial silk from short staple cotton and that consideration would have to be given to the use of linters for this purpose. There was a large area under long staple cotton, which was being saw-ginned to an increasing extent and if the linters could be recovered and used, it would be a paying proposition. In the belief that linters would be used the Sub-Committee had recommended the expenditure.

Reference was made by a member to the fact that the scheme was originally started with a view to find use for short staple cotton, which was at times a drag on the market, particularly when Japan did not take it. As it was stated that linters would have to be used, it was necessary first to see that linters were available in sufficient quantities to render the production of artificial silk economical. He felt that unless cotton or linters were used for the experiment, the Committee was precluded from undertaking the work, as its activities were confined to cotton.

In reply it was pointed out that the position of India was different from that of other countries, as for instance acetic acid could be had in India at a much lower price. The Committee had to consider the question of the use of cotton waste, and other by-products of cotton.

The President remarked that the annual production of linters in the Punjab had been roughly estimated at 60,000 bales The Sub Committee had therefore recommended that it was worthwhile putting up a plant to determine the cost of producing chemical cotton from linters and at the same time, to find out if short staple cotton could be utilised and at what cost

The proposal for an additional allotment of Rs 11,000 for installing a pilot plant to determine the cost of production of chemical cotton was approved

It was urged that a complete plant for the production of chemical cotton as well as rayon should be erected The Committee however, thought that the actual manufacture of rayon was a matter for the Industrial Research Bureau to decide and that, on principle the Committee should limit itself to the essential factor only, *viz*, the cost of production of chemical cotton

A cut motion for reducing [illegible] by Rs 20,000 under the item [illegible] and printing, Research and [illegible] Assistants" was then moved It was put to vote and declared lost

The report of the Technological Research Sub Committee was adopted

SUBJECT 21 —**Report of the Research Students Selection Sub Committee*

SUBJECT 45 —*Proposed award of training grant to Mr H A Idnani for foreign study*

(The above two subjects were considered together)

The following resolution was carried —

RESOLUTION.—"That the report of the Research Students Selection Sub-Committee be adopted."

SUBJECT 22 —*Progress Report on Punjab Physiological Scheme and proposals for additional grant*

Dr. Burns said that one of the recommendations of the Special committee which examined the scheme in March 1937 was that an attempt should be made to reproduce artificially the disease of the failure of American cotton This Prof Dastur had been able to do in the past year [illegible]

[illegible]

Society, who spent about 3½ months at Lyallpur and made a number of recommendations in one of the shortest and most easily understandable reports on record Dr Mason's conclusion was that the cotton failure in the Punjab was due to two kinds of bad opening of the bolls (1) classed as nutritional bad opening which was common in other countries as well *In this type of bad opening the seed was hard, i e, there was* an embryo in it, (2) a second other type of bad opening, which was peculiar to the Punjab, the seed being hollow, *i e*, the embryo had aborted and had not developed Dr Mason, from his observations and those of Prof Dastur came to the conclusion that there was strong

* Appendix VI (page 57)

evidence to show that cotton failure was due to alkali poisoning of the plant, probably due to sodium carbonate, enhanced by unfavourable climatic conditions. If these indications were substantiated in the following two or three years' work, then the way to a cure would be clear. The cure was partly indicated by an observation of Dr. Mason that, while Sudan soils contained about 60 per cent. of clay, Punjab soils contained only 15 per cent. Clay would act as a buffer and would tend to render the alkali harmless. Organic matter (humus) would, to an even greater extent, bring about the same effect. It was possible for that reason that sandy soils in the Punjab were especially liable to *Tirak*. He considered that a good deal had been done to overhaul the scheme to chalk out the future lines of work. Referring to Dr. Mason's recommendations for an expenditure of about Rs. 10,000 for apparatus to follow up the question of soil study, he said that the Agricultural Research Sub-Committee had endorsed it with the proviso that the soil side of the work should be put under Dr. Lander. He commended the report of the Sub-Committee for acceptance.

The phenomenon of the disintegration of the chloroplasts in the leaves, which gave an important indication as to whether the plant would give the symptoms of a failure, was described by Mr. Roger Thomas as being an important piece of work done by the physiologist. It was pointed out by him that, according to the report, failure might occur on very sandy soil, on alkaline soil and under drought conditions, and disintegration of chloroplasts appeared to be associated with these adverse environmental conditions. He had reasons for believing that the breakdown of the chloroplasts was also associated with White Fly attack irrespective of other environmental conditions. It was suggested that this aspect should be investigated.

In reply it was stated by the Director of Agriculture, Punjab, that while the Department realised that White Fly had done and could do a great deal of damage to the cotton plant, it was also equally satisfied that White Fly was not responsible for the failures.

The President said that everybody agreed that White Fly did cause damage to cotton. The investigation had been completed and it was a question of giving practical effect to the results obtained. As far as the scheme under consideration was concerned, it might be left to the Director of Agriculture, Punjab, to work out the technical programme.

The Report of the Agricultural Research Sub-Committee was adopted.

The Vice-President then moved the following resolution :—

RESOLUTION.—"That the thanks of the Indian Central Cotton Committee be conveyed to the Empire Cotton Growing Corporation for their readiness and generosity in giving the services of Dr. T. G. Mason, F.R.S., to examine and report on the Physiological Research Work financed by the Committee in the Punjab."

Mr. Stewart, in seconding the resolution, said that it was a great comfort to technical members of the Committee that they were in a position to receive such very helpful and generous co-operation from a body like the Empire Cotton Growing Corporation and they were under a great debt of gratitude to them.

Similar appreciative remarks were made by other members and the resolution was carried with acclamation

SUBJECT 23 —*Growing of Cotton in the United Provinces—Reply from the United Provinces Government.*

The Report of the Agricultural Research Sub Committee was adopted

SUBJECT 24 —*Expiry of period of contract of Publicity Officer*

The following resolution of the Standing Finance Sub Committee came up for consideration before the Committee —

"The Sub Committee feel that, as the Publicity Section costs nearly Rs 3,000 a month, a cheaper method of publicity should be devised and examined by the Committee before the Publicity Officer is given any new contract The Sub Committee is further of the opinion that unless the policy of the Committee in respect of the schemes financed by it undergoes a substantial change *it is doubtful if there would be enough work left for a special officer* in charge of publicity and propaganda "

It was explained that the object of the resolution was not to decry the work done by the Publicity Officer, but to point out that the expense ratio of the publicity section was disproportionately high and required to be brought down While some kind of propaganda was required, the view of the Standing Finance Sub Committee was that a small Sub Committee should be appointed to examine the best way in which this could be carried out at a lower cost The Sub Committee would support a scheme which would cost a reasonable sum and still serve the same purpose During the last six years, nearly two lakhs had been spent on propaganda which was proportionately too high

Against this it was argued that an expenditure of Rs 3 000 a month on propaganda was not too much against a total annual budget of Rs 10 lakhs The more money the Committee spent, the more efficient should be its publicity and propaganda section

[illegible] the [illegible] at a [illegible] on [illegible] dget of Rs 10 lakhs That was a point to be borne in mind The Finance Sub Committee's view was that they should not go on spending at the present rate

The general opinion of the Committe was that the proposal to inquire into the question whether publicity could be carried on effectively with less money or whether with the same amount of money more work could be done, should be proceeded with and the following resolution was passed —

RESOLUTION —"That a Sub-Committee consisting of two Directors of Agriculture, two representatives of growers, and two members of the Standing Finance Sub-Committee with the Vice-President as Chairman, be appointed to report on what propaganda activities the Indian Central Cotton Committee should undertake for the next three years and what staff is necessary."

The following members were appointed on the Special Sub-Committee :—

The Vice-President (Chairman, *ex-officio*),
Mr. P. B. Richards,
Mr. H. R. Stewart,
Mr. M. P. Kolhe,
Sardar Rao Bahadur Bhimbhai R. Naik,
Sir Chunilal V. Mehta, and
Mr. J. Vonesch.

It was suggested that the report of this Sub-Committee should be considered at the next monsoon meeting.

SUBJECT 25.—*Final Report on Sind Physiological Scheme.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 26.—*United Provinces C. 402 Seed Distribution and Extension Scheme—Review of—Reference from last meeting of the Committee.*

The views of the Agricultural Research Sub-Committee differed from those of the Local Government inasmuch as the Local Government wanted the scheme to continue for another year, whereas the Sub-Committee considered that there was not sufficient evidence that this particular variety was going to be a success to warrant further money being spent on it.

A plea for revising the findings of the Sub-Committee was put forward. The competition between a promising sugarcane crop and a dwindling return from cotton was stated to be the main reason for the decline in the area under this cotton and it was argued that, given normal season, and with sugarcane finding its economic level, there was scope for development of this type of cotton in the Hardoi district.

The Sub-Committee thought, however, that there was no objection to the Agricultural Department continuing the work on C. 402.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 27.—*Seed Distribution and Extension Schemes—Proposed extensions of.*

(*a*) *Khandesh (Jarila) Scheme—Proposals for allocation of expenditure between the Committee and the Bombay Government.*

The recommendation of the Agricultural Research Sub-Committee was that the scheme should be continued for a period of three months by which time the results of field trials and spinning performance of Jarila should become available. The Secretary pointed out, however, that the Government of Bombay had since communicated their assent to meet their share of expenditure. It was, therefore, suggested that the scheme might now be sanctioned for one year which would be cheaper for the Committee than meeting the full expenditure on the scheme for three months.

After some discussion it ' ' ed for one year on the cc y of the cotton, which shou Committee within three m

The Report of the Agricultural Research Sub Committee was adopted with the above modification

(b) *Madras Co 2 Scheme*

The Agricultural Research Sub Committee was of the opinion that the scheme had now reached a stage when it should be self supporting

The Report of the Agricultural Research Sub Committee was adopted

The hope was expressed that the Madras Government would continue to maintain the purity of the seed

SUBJECT 28 —*Proposed New Research Schemes* —

(a) *Scheme for investigation into Black headed Cricket in Sind*

With regard to the recommendation of the Agricultural Research Sub Committee that no work should be done on control measures pending the results of the first year's investigation a suggestion was made that this proviso should be duly relaxed to enable the work being undertaken, should the pest assume serious proportions in the coming season The suggestion was agreed to and the report of the Agricultural Research Sub Committee, as amended was adopted

(b) *Scheme for research on the improvement of Punjab-American* 289 *F cotton*

Emphasis was laid on three points which, it was suggested, should be kept in view in selecting superior strains from Punjab American 289 F, viz, resistance to White Fly, high ginning percentage and good spinning qualities

The Report of the Agricultural Research Sub Committee was adopted

(d) *Scheme for interspecific hybridisation in cottons at Surat*

The Report of the Agricultural Research Sub Committee was adopted

(e) *Scheme for the investigation of Heliothis Obsoleta as a pest of cotton in the Central Provinces and Berar*

The Report of the Agricultural Research Sub Committee was adopted

(f) *United Provinces Botanical Scheme*

Dr Burns said that, as stated in the Agricultural Research Sub Committee's report, this scheme was an attempt to restart, on a suitable scale, cotton work in the United Provinces where there were now three cottons viz, A 19, C 520, and C 402 Of these, A 19 and C 402 were not quite satisfactory The scheme was divided into two parts The first part was mainly concerned with the working up of certain materials got from the recent survey and finding out the possibilities of developing them into suitable races, in addition, a further programme for C 520 and C 402 was proposed to be carried out The

was an attempt to try short and medium staple cottons, particularly in the pink boll-worm controlled areas, along with selections from improved types. The subject was fully discussed by the Sub-Committee, and the conclusion arrived at was that it was very necessary that this work should be undertaken.

To an inquiry whether there was any Provincial Cotton Committee in existence in the United Provinces, Mr. Richards replied that they had no Provincial Cotton Committee as such, but there was a Sub-Committee of the Upper India Chamber of Commerce which functioned effectively as a Cotton Committee and dealt with any questions put up by the United Provinces Government. The scheme under consideration, for instance, had been referred to that Sub-Committee which had considered it in detail and recommended its acceptance by the Indian Central Cotton Committee.

Lala Shri Ram said that the mills wanted a cotton which was between 4-F and *desi*. They could not import such cotton from Bombay and other places because of the prohibitive freight rates. The quantity available of C. 520 and C. 402 was so small that it was not worthwhile going in for them.

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 29.—*Proposed New Seed Distribution and Extension Schemes* :—

(*a*) *Scheme for financing seed distribution in Sind—Reference from last meeting of the Committee.*

The scheme put up was for a period of three years in the first instance and involved a net grant of Rs. 46,500 per annum (expenditure Rs. 3,11,500 less receipts Rs. 2,65,000).

In accordance with the principle laid down a year ago that in the matter of seed distribution schemes the Committee should bear either the charges on the staff or those on contingencies, the Agricultural Research Sub-Committee expressed its unanimous view that the Committee should meet the larger item of Rs. 45,000. There was also a general recommendation that the scheme should not be financed until the rules under the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, in a form approved by the Local Sub-Committee had been brought into force in Sind, as it was thought that without this measure the scheme would not be a success.

A proposal was made that the Cotton Transport Act should be applied to Sind to control the transport of seed from the Punjab to Sind. It was, however, thought that the question raised being new it should be first examined by the Sind Cotton Committee.

In regard to the system on which the sales were proposed to be conducted under the scheme it was suggested that instead of salaried agents, the services of ordinary unofficial commission agents should be utilised, as in the Punjab. The five months' period during which the seed depots were proposed to be kept open was considered to be unnecessarily long.

In reply, the Director of Agriculture, Sind, stated that paid staff were necessary to ensure that their services would be readily available and that the seed would be sold off. The period of five months for the sale of

seed was based on the fact that the growers bought their requirements of seed over a long period extending from January to May.

The Report of the Agricultural Research Sub Committee was adopted subject to the condition that the details of the working of the scheme should be examined at the end of the first year with a view to effecting economies

(b) *Scheme for maintenance of nucleus of pure seed in the Madras Presidency*

The Report of the Agricultural Research Sub Committee was adopted

SUBJECT 30 —*Institute of Plant Industry, Indore—Budget for* 1938 39 *and programme of work*

The President said that, as in the past the Agricultural Research Sub Committee had recommended a basic grant of Rs 85 000 for 1938 39 and a supplementary grant of Rs 15,000 for the Indore Institute The Sub Committee had gone into the research programme very carefully and approved of the grant

That the Chemistry and Agronomy Sections were not doing work of a fundamental nature and should, therefore, be abolished after one year was the view held by Mr Chandulal P Parikh, who, therefore, proposed that a sum of Rs 65,000 per annum be sanctioned for the next three years

The proposal fell through for want of a seconder

The Report of the Agricultural Research Sub Committee was adopted

SUBJECT 32 —*Rules under the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act*, 1936

The Secretary's note drawing attention to the Rules under the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act, 1936, as finally published in the Central Provinces and Berar *Gazette* of 29th October 1937, was recorded

SUBJECT 33 —*Licensing of Ginning and Pressing Factories—Letter from Director of Agriculture, Punjab*

It was reported a year ago that the Punjab Government had decided to take no active steps to introduce legislation for licensing ginning and pressing factories until experience had been gained regarding the working of the Act in Bombay and the Central Provinces As, however, neither of these provinces had put the Act into operation, the Punjab Government had decided to take no further action in the matter for the present

The opinion expressed by some members of the Punjab Provincial Cotton Committee, that the *Zamindar* got a higher price when mixing was done, that the cultivator would lose if mixing was prohibited and that there were other considerations against legislation, came in for strong criticism It was pointed out that the grower of *desi* cotton got more by mixing but the grower of American cotton did not The users of Indian cotton in India preferred pure cotton and would pay the proper price for it

The question was raised whether Indian mills could buy 13,00,000 bales pure American cotton produced in the Punjab. As there was no market for such a huge crop, it was argued that it had to be exported largely to Japan which wanted mixed cotton and paid the same price for mixed as for pure cotton. To apply the Cotton Ginning and Pressing Factories Act to the Punjab to prevent mixing would, therefore, be suicidal for that Province.

In reply it was pointed out that there was no definite demand from Japan for mixed cotton. Japan purchased mixed cotton not knowing that it was mixed.

It was stated that though there had been a demand for further restrictions on the importation of foreign cotton, especially American, yet the Punjab Government were unwilling to take the one step which would make available a much larger proportion of pure Punjab-American suitable for Indian mills. The Japanese market was now unreliable. The two main markets for Punjab-American were now the Indian mills and possibly the United Kingdom, neither of which wanted mixed cotton.

Several speakers were of the opinion that the problem of 'mixing' in the Punjab added to the difficulties of marketing Indian cotton and finding new buyers for it.

On behalf of the Punjab Government two difficulties were put forward in connection with the licensing of gins and presses. The first related to the question of getting the required legislation passed, and the second to the administration of the Act without the employment of a whole host of inspectors to inspect the factories.

It was pointed out that the Local Sub-Committee had fully discussed details regarding anti-mixing proposals without the employment of inspectors of factories. It was felt that no further progress in the matter would be possible unless the matter were fully discussed with the Hon'ble Minister for Agriculture, Punjab Government.

The Committee agreed that a copy of the debate should be forwarded to the Punjab Government and that the subject should be again discussed at the next cold weather meeting of the Committee which was fixed to be held at Lyallpur when it was hoped that the Hon'ble Minister for Agriculture, Punjab Government, would be able to present.

SUBJECT 34.—*Restriction of number of commercial types of cotton in the Punjab—Letter from Director of Agriculture, Punjab.*

As decided by the Committee at its last meeting, the question of restricting the number of types of cotton grown in the Punjab and of making their names as simple and as few as possbile was considered by the Punjab Provincial Cotton Committee. It was proposed that instead of giving new names to selections from existing types, they should show the main class from which they were derived with a suffix to indicate the particular selection. Thus 43*F*, *K.T.* 25 and 47*F* which were all derived from 289*F* should be known as 289*F*-43, 289*F*-K25 and 289*F*-47 respectively. But as *L.S.S.* possessed totally different characteristics. it was not proposed to add the class indication 4*F* to it.

The proposal of the Punjab Provincial Cotton Committee was accepted.

SUBJECT 35 —*Application of Cotton Transport Act in the Punjab—Letter from the Director of Agriculture Punjab*

The question of applying the Cotton Transport Act to the whole or a part of the Punjab was considered by the Provincial Cotton Committee The conclusion arrived at was that as in the greater part of the Punjab both American and *desi* cottons were grown side by side the application of the Act would be of no value except in certain *tehsils* of the Nili Bar Colony In regard to the latter however the Provincial Cotton Committee felt (1) that the area affected was so small that it would have no appreciable effect on the position as a whole and (2) that the lack of any natural barriers would make it impossible in practice to put the Cotton Transport Act into operation there

It was decided that no action was feasible for the present and that the Secretary s note should be recorded

SUBJECT 36 —*Proposal for the better marketing of 1027 A L F cotton of the Baroda State*

The Report of the Agricultural Research Sub Committee was adopted

SUBJECT 37 —*Cotton Policy in Gujarat*

The complicated question of cotton growing policy in Gujarat came up for consideration once again The Hon ble Mr Morarji R Desai Minister for Revenue and Agriculture Bombay Government was present during the discussion The point at issue was whether 1027 A L F should be grown over the whole of Gujarat or whether it should be restricted to the area south of the Tapti allowing the Selection 1A to spread in the area north of the Tapti It was argued that in the absence of adequate premium for 1027 A L F Selection 1A gave better net return per acre and was therefore preferred by the cultivator Certain co operative societies were also definitely favouring 1A against 1027 A L F It was therefore feared that unless suitable protective measures were adopted 1027 A L F would gradually disappear

Several conferences had been held to discuss this important question prior to the meeting of the Central Cotton Committee The proposals finally placed before it for consideration were —

(1) That steps should be taken to apply the Cotton Transport Act round the boundaries of Olpad Taluka and the area of Chorasi Taluka north of the Tapti so as to prevent any *kapas* or seed moving out of that area south of the Tapti or into the Baroda territory of Mangrol Taluka on the east or into Ankleshwar Taluka on the north

(2) That the Bombay Agricultural Department should under take to purify and improve Surat 1A cotton grown in this segre gated area

(3) That to check the spread of Selection 1A south of the Tapti the Bombay Cotton Control Act should be so amended as to prevent the cultivation of any cotton inferior in staple to 1027 A L F and that it should be applied to the following areas —

(*a*) Chorasi and Bardoli Talukas of British Gujarat

(*b*) Kamrej and Palsana Talukas of Baroda State and

(*c*) Sachin State

(4) That the Agricultural Departments of Bombay and Baroda should concentrate on the seed distribution of 1027 A.L.F. in the areas mentioned above.

(5) That as some of the co-opeartive societies growing Selection 1A in the Olpad Taluka had established Pressing Factories south of the Tapti near Surat, licenses for pressing outside Olpad should be granted but only for pressing at definite scheduled presses and on condition that fully pressed bales would be clearly stamped with "Olpad." To ensure that this condition is rigorously carried out, a staff of inspectors should be appointed in the beginning, if necessary.

(6) That in the area south of the Tapti, earliest opportunity should be taken to utilise the Agricultural Produce (Grading and Marking) Act, 1937, to enable 1027 A.L.F. cotton to be marketed as a special grade of Surat cotton and under a special grade mark protected by law under the Act, and that the Indian Central Cotton Committee should move the Government of India to have cotton included in the schedule under the Act.

After a lengthy discussion during which every aspect of the question was fully examined, the following resolution was passed by the Committee accepting *in toto* the proposals outlined above :—

RESOLUTION.—"The Indian Central Cotton Committee trust that the Governments of Bombay and Baroda will take steps to ensure the cultivation of pure 1027 A.L.F. seed in the Surat district. The proposal contained in the Supplementary Note to restrict the 1A seed to certain zones is approved, and the Committee hope that the result of such experimental restriction will be carefully watched by the Governments. The Committee repeat the view they have consistently expressed that it is essential in the interests of the reputation of Surat cotton and to the ultimate benefit of the cotton growers in Surat that 1027 A.L.F. should continue to be sown in larger quantity and to be marketed pure."

It was urged that it would be a distinct disservice to the cotton grower of Surat if the Committee or the Government of Bombay gave way to the clamour of the growers of 1A, who only looked to their immediate benefit which they got because others in the Surat district grew the better staple variety, *viz.*, 1027 A.L.F.

On behalf of the cultivators of 1A in Olpad, it was pointed out that though they would be permitted to grow 1A, they would indirectly be forced to grow 1027 A.L.F. as, in the absence of any suitable arrangement under the proposed zone system, they would have to sell their cotton to one or two ginning factories, thereby giving a monopoly to the latter.

It was pointed out that the Bombay Government would have the fullest co-operation of the trade as well as of the Committee in safeguarding the interests of the cultivators.

The millowners and the trade were unanimous in their opinion that 1027 A.L.F. was the best cotton to grow in the interests of the cultivator of the Surat area. It was admitted that under the existing circumstances the best policy was to distribute 1027 A.L.F. south of the Tapti and 1A seed north of the Tapti. The Committee was prepared to render any assistance in the marketing of 1027 A.L.F. to enable it to hold its own against inferior cottons.

SUBJECT 38 —*Proposed amendment of Cotton Ginning and Pressing Factories Act in regard to the marking of bales*

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Factories Act of 1925, as there had been developing a tendency for the trade to take advantage of what might be called technical errors in marking The Committee decided that the possibility of meeting the difficulties complained of, by an amendment of the Act or otherwise, should be examined

The Local Sub Committee, *after informal consultations* made certain suggestions to the Government of India viz that Section 14 of the Cotton Ginning and Pressing Factories Act should be amended in such a manner that the right of a purchaser to reject a bale of cotton would be limited to bal

under Section 4

would do away

plication of the serial number (showing the year and the running number of the bales) and would enable the East India Cotton Association to amend its bye laws accordingly It was further suggested that provision should be made either in the Act or in the Rules under the Act that if bales were correctly marked, it would be presumed as between buyer and seller that they had been marked before leaving the factory Further that in Rule 7 of the Indian Cotton Ginning and Pressing Factories Rules which required every bale of cotton pressed in a cotton pressing factory to be marked with the special mark and the serial number in such a manner as to render the marks clearly decipherable' the word 'clearly should be omitted and that it should be made clear in the Indian Cotton Ginning and Pressing Factories Rules that there would be no objection to the special mark and the serial number appearing both on the bale and on the hoops if so desired The Government of India were requested to forward the draft of any amendment which they might propose to introduce to the Committee for an expression of opinion before legislation was actually undertaken

A further suggestion to add to Section 14 a proviso to the effect that where 50 or more bales were to be tendered in *fulfilment of a future* contract made under the bye laws of any recognised cotton association the lot should not be rejected if a prescribed percentage of bales was marked, was placed before the Committee for consideration

During the course of the discussion it was pointed out that it should be made clear in the bye laws that only the wrongly marked bales could be rejected and not the whole tender

The President said that after the amendment was passed, each Association would have to make appropriate amendments in their own bye laws *The actual percentage would be fixed by* the Government of India by an amendment of the rules and before the amendment was passed all interests would be consulted

The President then moved the following resolution which was passed unanimously —

RESOLUTION — "That the Indian Central Cotton Committee confirms the recommendation of the Local Sub-Committee and is f er he

opinion that a proviso should be added to Section 14 of the Cotton Ginning and Pressing Factories Act to the effect that where 50 or more bales are to be tendered in fulfilment of a future contract made under the bye-laws of any recognised cotton association, the lot should not be rejected if a prescribed percentage of bales is marked."

SUBJECT 39.—*Provincial Cotton Committees—Proceedings of the Punjab Provincial Cotton Committee.*

The proceedings of the Punjab Provincial Cotton Committee were recorded.

SUBJECT 40.—*Conference of workers on cotton growing problems—Letter from Secretary, Empire Cotton Growing Corporation.*

The Secretary's note referring to the letter received from the Secretary, Empire Cotton Growing Corporation, regarding the Conference of workers on cotton growing problems, to be held in London in September 1938, was recorded.

SUBJECT 41.—**Report of the Standing Finance Sub-Committee* :—

(*a*) Balance Sheet,

(*b*) Financial Statement,

(*c*) Revised Estimates, 1937-38,

(*d*) Budget 1938-39,

(*e*) Auditors' Fees.

Regarding paragraph 15 of the Report of the Standing Finance Sub-Committee, it was decided that the Director of Agriculture, Bombay, should be requested to take up the matter of the accounts of the Hubli and Gadag Co-operative Cotton Sale Societies with the Registrar of Co-operative Societies, Bombay, with a view to recovering the amounts due to the Committee.

The following resolutions were passed unanimously :—

RESOLUTION.—" That the Report of the Standing Finance Sub-Committee be adopted."

" That the Revised Estimates for 1937-38 be approved."

" That the Budget for 1938-39, as amended at this meeting of the Committee, be sanctioned."

" That Messrs. S. B. Billimoria & Co. be re-appointed auditors for the year 1938-39 on a remuneration of Rs. 750."

SUBJECT 43.—*Disposal of Defibrating and Delinting machines installed in the British Cotton Growing Association Factory at Khanewal—Letter from the Director of Agriculture, Punjab.*

As Platt's delinting machine and the defibrating machine supplied by Duncan Stratton & Co., were not working satisfactorily, it was decided that the firms should be asked to take them back and refund the cost.

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*Appendix VIII (page 94).

SUBJECT 44 —*Question of balancing the Budget of the Committee—Reference from the Standing Finance Sub Committee*

The President said that the Agricultural Research Sub Committee had recommended that the new procedure suggested by the Standing Finance Sub Committee should be tried for a year Under this proposal all new schemes, in future, would have to be submitted at the monsoon meeting of the Committee and they would finally be sanctioned at the budget meeting, so that the Standing Finance Sub Committee would have a chance of examining them and settling the details at a joint meeting with the Agricultural Research Sub Committee during the cold weather session

The Report of the Agricultural Research Sub Committee was adopted

SUBJECT 46 —*Provincial Cotton Committees—Proceedings of the Sind Cotton Committee*

The proceedings of the Sind Cotton Committee were recorded

SUBJECT 47 —*Early morning broadcast of cotton prices*

The Secretary's note, reviewing the progress made in connection with the proposed broadcasting experiment, for which a sum of Rs 5,000 had been sanctioned by the Committee for the purchase and installation of 12 receiving sets at suitable market centres, was considered The Government of India had agreed to advance the hour for the broadcast to 10 30 a m and eleven markets, 4 in the Central Provinces and Berar, 2 in the Bombay Presidency, 4 in the Punjab and 1 in the Madras Presidency, had been selected by a Special Sub Committee for the installation of receivers

Mr Roberts said that the time for the broadcast, *viz*, 10 30 a m was too late in so far as the villages were concerned In reply it was stated that this was the best that the Government of India could do for the present A report would be submitted to Government after the first season of the experiment regarding the extent to which the broadcast was proving useful to the cultivator, and an opportunity would thus be afforded for making suitable suggestions in the light of the experience gained

In regard to the selection of suitable markets, it was explained that there was no alternative but to select only such markets as started round about 10 30 a m , preference being given to smaller markets

SUBJECT 48 —*Indo Japanese Trade Agreements*, 1937

The Secretary's note, referring to the Indo-Japanese Trade Agreements, 1937, was recorded

SUBJECT 49 —*Madras Herbaceum Scheme—Proposed extension of*

A strong plea for a reconsideration of the recommendation of the Agricultural Research Sub Committee was put forward The proposal was put to vote and declared lost

The Report of the Agricultural Research Sub Committee was adopted.

SUBJECT 50 —*Scheme for improvement of Mathio cotton, Amreli and Jagudan—Request for additional grant*

The Report of the Agricultural Research Sub Committee was adopted.

SUBJECT 51.—*Scheme for survey of cotton in Rohilkhand and Bundelkhand, United Provinces—Proposal for appointment of Senior Assistant for writing up fresh detailed report.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 52.—*Proposal for the appointment of a Special Sub-Committee to report as to what extent the results of research schemes of the Committee have benefited the cultivator—Letter from Mr. Chandulal P. Parikh.*

Mr. Chandulal P. Parikh said that the Special Sub-Committee of the Agricultural Research Sub-Committee which was appointed to examine in detail the merits of the various agricultural research schemes, and whose findings were considered by the full Committee at its meeting in February 1935, had pronounced its opinion on only four schemes. In respect of four other schemes it was considered too early to express any opinion, while fifteen schemes were allowed to continue. He proposed that the Agricultural Research Sub-Committee at its meeting in July next should examine the 19 schemes on which no opinion had been expressed and submit a full report to the Central Committee.

The seconder of the proposal urged that as every year there were demands from Directors of Agriculture for the financing of schemes, it was only right that an examination should be made into the results of practical utility so far achieved.

On behalf of the Agricultural Officers it was argued that while the principle of reviewing the Committee's research programme was sound in itself the question for decision was as to how often such work should be undertaken. As the schemes of the Committee had been thoroughly examined only three years ago it was too early to review them again. It was pointed out also that schemes were very carefully examined, first by the Provincial Cotton Committees and Directors of Agriculture, then by Sectional Sub-Committees and lastly by the full Agricultural Research Sub-Committee, before they were put into operation. Further, the submission of periodical progress reports on schemes afforded opportunity for terminating any scheme before its sanctioned period if at any stage it was found that it was not living up to its promise. The Committee was therefore warned that by being too nervous it was possible to start pulling the schemes by the root before they had begun to grow. The point was also stressed that it was not possible for a Sub-Committee to estimate correctly the effect of the results of research work on the cultivator, as only the people on the spot who were in actual touch with the schemes were in a position to do so.

After some discussion it was agreed that when any scheme came up for renewal, there should be an examination of the economic value of the results obtained or expected from it and that on the completion of a scheme the Committee should come to a conclusion as to the economic results obtained from it.

SUBJECT 53.—*Proposal for enquiring into the activities and expenses of the Technological Laboratory and the Institute of Plant Industry, Indore—Letter from Mr. Chandulal P. Parikh.*

Mr. Chandulal P. Parikh moved cuts of Rs. 30,000 and Rs. 40,000 in the budget grants of the Technological Laboratory and the Indore

Institute respectively In his opinion, the work done at the Laboratory was not appreciated by 70 per cent of the people whom it was meant to benefit, viz, the cultivator, the trade and the mills The trade and the mills, *while recognising the importance of the Laboratory*, did not agree with some of the results regarding length of staple, etc, obtained at it He suggested that it could very well carry on its spinning and other activities relating to research problems with a sum of Rs 1,40,000 as was the case up to 1935, when its activities began to extend without commensurate results of practical value

As regards the Indore Institute he drew attention to the Committee s own verdict in January 1935, that the amount spent on the Institute till then had practically been a waste He thought the genetical and botanical work could be carried on with a sum of Rs 45 000 while an additional amount of Rs 20 000 should be sufficient for the Institute s other research work of a fundamental nature The Chemistry and Agronomy Sections, which absorbed about Rs 19,000, could be abolished with the exception of, perhaps, one post of a chemist, if necessary.

He uttered a warning that the Committee could not long continue with its present activities unless the cess was doubled because the balance at the end of 1942 would be Rs 9 lakhs, which was the minimum reserve To pave the ground for increasing the cess he suggested that attention should be paid to schemes which would appeal to the cultivator and the trade He visualised great possibilities for the Committee's work during the next five years and in order that the revenues during this period might be well spent he proposed cuts in the items of expenditure which he felt to be excessive

In conclusion, he urged that the Laboratory should not undertake tests free of charge for the East India Cotton Association, and Bombay and Ahmedabad Millowners' Associations who were rich enough to pay for these tests The bulletins supplied to these Associations should also be charged for

It was pointed out that there was a long discussion on the subject at the meeting of the Technological Research Sub Committee and the result was that only one member was in favour of the proposition whilst many others were of the opposite opinion It was therefore unnecessary to cover the same ground once again

As only two members were in favour of discussing the proposal of Mr Parikh and the others against, it was decided that the Secretary s note be recorded

SUBJECT 54 —*Need for a special mark to distinguish bales of cotton produced from pure seed distributed by the Committee— —Letter from Mr C P Parikh*

Mr Chandulal P Parikh said that as the scheme submitted under Subject 9 covered the points raised by him, he had nothing further to say in the matter

The Secretary's note was recorded

SUBJECT 55.—*Sale of Verum cotton bales effected during December 1937.*

The Secretary's note giving the prices obtained for Verum during December was recorded.

SUBJECT 56.—*Madras Pemphercs and Physiological Scheme—Proposed extension of.*

The Report of the Agricultural Research Sub-Committee was adopted.

SUBJECT 57.—*Present position of cotton.*

The Vice-President explained that in October 1937, the ruling prices of cotton were so low that everybody connected with cotton felt that the purchasing power of the cultivator would be seriously injured if the position continued. The Local Sub-Committee considered the matter and after a full discussion resolved upon two lines of action. The first related to reduction of freight rates on cotton, and the second was a recommendation to Provincial Governments that wherever ginning and pressing charges were high, efforts should be made by them to reduce the charges.

It was pointed out that though there had been a rise in cotton rates from Rs. 15 to Rs. 20 over the low point of a few months ago, the position was full of grave risk and doubt. The main question was the stock which would be left on hand in the country towards the end of the season in the event of Japan not being able to buy her normal quantity as during the last few years, in accordance with the Indo-Japanese Trade Agreement.

Disappointment was expressed that the Government of India had not been able to see their way to accepting the Committee's recommendation regarding reduction in railway freight rates on cotton.

The Committee approved of the action taken by the Local Sub-Committee.

At this stage the attention of the Committee was drawn to the reported action of the Japanese commercial body known as the Rangokai proposing to secure exchange permits for import of cotton from India against purchases made till then on the basis of the current low prices and not on the contract prices as entered into, which averaged about Rs. 30 to Rs. 50 per candy more than the current prices. Regarding the amount due to the difference in prices, the Rangokai was reported to have stated that it would see later on, depending on the convenience of the Japanese Government or of the Japanese merchants. The Committee was informed that the East India Cotton Association had wired to the Government of India suggesting that enquiries should be made through the Indian Government Trade Commissioner in Japan, regarding the correctness of the report and that if it was true, Government of India should protest to the Japanese Government with a view to restraining the Japanese merchants from taking the proposed step which amounted to repudiation of contracts. It was urged that if international commercial ethics were to be thrown to the winds in such a short-circuiting manner, a stage had been reached in the Indo-Japanese Trade Agreement when the Government of India must protect those who entered into *bona fide* trade arrangements.

It was felt however, that in the absence of official confirmation of the above report the matter could not be profitably discussed by the Committee at the moment

SUBJECT 59 —*Wide parity between Broach and American cotton in 1936 37—Reference from Local Sub Committee*

In recording the note* of the East India Cotton Association as to what exactly was meant by parity the Committee expressed its appreciation of the trouble taken by the Association in giving a considered exposition of the subject

SUBJECT 60 —*Proposed extension of appointment of Technological Assistant Sind*

The Report of the Agricultural Research Sub Committee was adopted

SUBJECT 31 —*Report† of the Agricultural Research Sub Committee*

The following resolution was passed —

RESOLUTION —" That the Report of the Agricultural Research Sub-Committee, as now amended, be adopted "

SUBJECT 61 —*Reduction of handling charges on cotton—Reference from Local Sub Committee*

The Secretary s note indicating the progress made in the examination by the trade in Bombay of the question of reducing handling charges on cotton was recorded

SUBJECT 62 —*Policy of the Committee regarding apportionment of cost of schemes during their extension periods—Consideration of replies from Provincial Governments and States*

It was explained that most of the Provincial Governments had accepted in principle the policy laid down by the Committee in 1937, regarding apportionment of cost of schemes between the Committee and the Provincial or State Governments

It was agreed that no change in the policy as laid down was called for

SUBJECT (not on the Agenda) —*Telegram from the Karachi Cotton Association*

The following telegram from the Karachi Cotton Association was read out at the meeting —

> Request your support to following resolution The Board of Directors ... situation

Attention was drawn to the statement made during the course of discussion on Subject 57 regarding the action taken by the East India

* Appendix IX (page 97) † Appendix VII (page 58)

Cotton Association in the matter. In the absence of official confirmation of the reported situation, it was suggested that the Committee should not, at that stage, attempt to do more than record the representation of the Karachi Cotton Association.

Trade members, however, urged that if the information was correct, in the interests of the cotton trade, the Indian Central Cotton Committee should take the initiative and request the Government of India to take early action in the matter.

The President said he would place the matter before the Commerce Secretary as soon as he got back to Delhi.

The Vice-President proposed a hearty vote of thanks to the President for having so ably presided over the meeting.

This was carried with acclamation.

The President replying thanked the members for their kind co-operation which had greatly helped him in disposing of the heavy agenda.

D. N. MAHTA.
Secretary.

RESOLUTIONS

No

Half yearly Report of the Publicity and Propaganda Officer

1 "That the half yearly Report of the Publicity and Propaganda Officer be recorded"

Report of the Cotton Forecast Improvement Sub Committee

2 "That the Report of the Cotton Forecast Improvement Sub Committee be adopted"

Publicity and propaganda work of the Committee

3 'That a Sub Committee consisting of two Directors of Agriculture, two representatives of growers, and two members of the Standing Finance Sub Committee with the Vice President as Chairman be appointed to report on what propaganda activities the Indian Central Cotton Committee should undertake for the next three years and what staff is necessary

Proposed amendment of Cotton Ginning and Pressing Factories Act in regard to the marking of bales

4 "That the Indian Central Cotton Committee confirms the recommendation of the Local Sub Committee and is further of the opinion that a proviso should be added to Section 14 of the Cotton Ginning and Pressing Factories Act to the effect that where 50 or more bales are to be tendered in fulfilment of a future contract made under the bye laws of any recognised cotton association the lot should not be rejected if a prescribed percentage of bales is marked"

Report of the Wider Markets Sub Committee

5 "That the Report of the Special Sub Committee on Wider Markets for Indian cotton be adopted subject to the deletion of the last sentence of paragraph 8 of the Report."

Appointment of Vice President.

6 "That Sir Chunilal V. Mehta be elected Vice President for the year 1938 39"

Standing Finance Sub Committee.

7 "That the following members be appointed to form the Standing Finance Sub Committee for the financial year 1938 39 —

The President (*ex-officio*),
The Vice President,
Sir Purshotamdas Thakurdas,

No.

Mr. S. D. Saklatvala,
Mr. J. Vonesch,
Mr. Kasturbhai Lalbhai,
Mr. M. S. Durutti,
Rao Bahadur Sir Madhaorao Deshpande, and
Mr. W. J. Jenkins."

Cotton Ginning and Pressing Factories Sub-Committee.

8 "That the following members be appointed to form the Cotton Ginning and Pressing Factories Sub-Committee :—

The Vice-President,
Sir Purshotamdas Thakurdas,
Mr. S. D. Saklatvala,
Mr. M. S. Durutti,
Mr. J. Vonesch,
Mr. Kasturbhai Lalbhai,
Mr. J. Nuttall,
Mr. W. Roberts,
Mr. J. Tinker,
Mr. P. V. Deshmukh,
The Co-operative Banking Representative (*ex-officio*),
Mr. W. J. Jenkins,
Mr. Chellaram Shewaram, and
Mr. Balak Ram."

...mmittee.

9 "That the follo... the Local Sub-Co...

The President,
The Vice-Pres...
...Purshotamda...
...D. Sakl...
...ti,

No

Agricultural Research Sub Committee

10 "That the following members be appointed to form the Agricultural Research Sub Committee —

I The President (*ex officio*),

II. The Vice President (*ex officio*),

III The Co operative Banking Representative (*ex officio*),

IV Cotton Growers' Representatives—Sardar Sahib Gurbachan Singh, Mr Roger Thomas, Mr W Roberts, Rao Bahadur Sir Madhaorao Desh pande,

V Cotton Trade Representatives—Mr Kasturbhai Lalbhai, Mr D K Kane Mr Chandulal P Parikh, Sir Purshotamdas Thakurdas,

VI Agricultural Officers —

The Agricultural Expert, Imperial Council of Agricultural Research (*ex officio*),

The Director, Institute of Plant Industry Indore (*ex officio*),

Mr H R Stewart,

Mr V Ramanatha Ayyar,

Mr W J Jenkins,

Mr R G Allan

Rao Saheb K I Thadani,

Mr P H Rama Reddi,

Mr P B Richards,

Mr J C McDougall,

Mr. Nizam ud Din Hyder

Mr G K Lele,

Dr V K Badami

VII Additional Members —

Dewan Bahadur Sir T Vijayaraghavacharya,

Mr Chellaram Shewaram,

Mr Mohammad Afzal,

Rai Saheb Kalidas Sawhney.

Mr K Ramiah,

Dr B L Sethi, and

VIII The Secretary"

No.

Technological Research Sub-Committee.

11 "That the following members form the Technological Research Sub-Committee :—

The President (*ex-officio*),

The Vice-President,

Sir Purshotamdas Thakurdas,

The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),

Dewan Bahadur Sir T. Vijayaraghavacharya,

Mr. S. D. Saklatvala,

Mr. M. S. Durutti,

Mr. W. J. Jenkins,

Mr. H. R. Stewart,

Mr. Chandulal P. Parikh,

Mr. P. V. Deshmukh,

Mr. Kasturbhai Lalbhai,

Mr. P. H. Rama Reddi,

Lala Shri Ram,

Mr. J. Tinker,

Mr. J. Vonesch,

Dr. Nazir Ahmad, and

Mr. E. F. G. Gilmore, Director, Industrial Research Bureau.

Additional Members :—

Two representatives each nominated by

The Bombay Millowners' Association,

The Ahmedabad Millowners' Association, and

The East India Cotton Association, and

One representative nominated by the Karachi Cotton Association, Ltd.

Research Students Selection Sub-Committee.

12 "That the Research Students Selection Sub-Committee be composed of the following members :—

The President,

The Vice-President,

Sir Purshotamdas Thakurdas,

Dewan Bahadur Sir T. Vijayaraghavacharya,

Dr. W. Burns,

No

Mr P B Richards,
Mr H R Stewart,
Mr P H Rama Reddi,
Mr W J Jenkins,
Mr T R Low,
Mr J C McDougall,
Rao Saheb K I Thadani,
Mr G K Lele,
Mr R G Allan
Mr Nizam ud Din Hyder,
Dr V K Badami,
Mr Kasturbhai Lalbhai,
Dr Nazir Ahmad,
Mr K Ramiah, and
Seth Isserdas Varindmal"

Cotton Forecast Improvement Sub Committee

13 "That the Cotton Forecast Improvement Sub Committee be composed of the following —

The President (*ex officio*),
The Agricultural Expert, Imperial Council of Agricultural Research (*ex-officio*),
The Director General of Commercial Intelligence and Statistics,
The Director of Agriculture, Bombay Presidency,
The Director of Agriculture, Punjab,
The Director of Agriculture, Madras,
The Director of Agriculture, United Provinces,
The Director of Agriculture, Central Provinces,
The Director of Agriculture, Sind,
The Director of Agriculture, H E H the Nizam's Government,
The Commissioner of Agriculture Baroda,
The Director of Statistics, H E H the Nizam's Government,
The Director of Land Records, Central Provinces and Berar,
The Deputy Director of Statistics,
The Statistical Officer to the Director of Industries, Madras, and
Mr J Vonesch"

RESOLUTIONS—(*contd.*)

No.

Wider Markets Sub-Committee.

14 "That the Wider Markets Sub-Committee be composed as follows :—

The President,

The Vice-President,

Sir Purshotamdas Thakurdas,

Dewan Bahadur Sir T. Vijayaraghavacharya,

Mr. H. R. Stewart,

Mr. P. B. Richards,

Dr. W. Burns,

Mr. W. J. Jenkins,

Rao Saheb K. I. Thadani,

Mr. Nizam-ud Din Hyder,

Mr. S. D. Saklatvala,

Mr. J. Vonesch,

Mr. Chandulal P. Parikh,

Mr. P. V. Deshmukh,

Mr. Balak Ram,

Sardar Rao Bahadur Bhimbhai Ranchodji Naik,

Mr. P. H. Rama Reddi,

Mr. J. C. McDougall,

Mr. W. Roberts,

Seth Isserdas Varindmal,

Mr. Kasturbhai Lalbhai,

Mr. Sayed Miran Mohammad Shah,

Mr. M. S. Durutti,

Dr. Nazir Ahmad, and

Mr. R. G. Saraiya—Additional Member."

15 "That the thanks of the Indian Central Cotton Committee be conveyed to the Empire Cotton Growing Corporation for their readiness and generosity in giving the services of Dr. T. G. Mason, F.R.S., to examine and report on the Physiological Research work financed by the Committee in the Punjab."

RESOLUTIONS—(*concld*)

No

Cotton Policy in Gujarat

16 "The Indian Central Cotton Committee trust that the Governments of Bombay and Baroda will take steps to ensure the cultivation of pure 1027 A LF seed in the Surat district The proposal contained in the Supple mentary Note to restrict the 1A seed to certain zones is approved and the Committee hope that the result of such experimental restriction will be carefully watched by the Governments The Committee repeat the view they have consistently expressed that it is essential in the interests of the reputation of Surat cotton and to the ultimate benefit of the cotton growers in Surat that 1027 A L F should continue to be sown in larger quantity and to be marketed pure "

Report of the Agricultural Research Sub Committee

17 "That the Report of the Agricultural Research Sub Committee, as now amended, be adopted "

Progress Report of the Director, Technological Laboratory

18 "That the Report of the Director, Technological Labora tory, be approved."

Report of the Technological Research Sub Committee

19 "That the Report of the Technological Research Sub Committee be approved."

Report of the Standing Finance Sub Committee

20 'That the Report of the Standing Finance Sub Committee be adopted

"That the Revised Estimates for 1937 38 be approved."

"That the Budget for 1938 39, as amended at this meeting of the Committee, be sanctioned "

"That Messrs S B Billimoria & Co be re appointed Auditors for the year 1938 39 on a remuneration of Rs 750 "

Report of the Research Students Selection Sub Committee

21 "That the Report of the Research Students Selection Sub Committee be adopted "

APPENDIX I.

SUBJECT 12.—*Cotton Ginning and Pressing Factories (Bombay Amendment) Act—Draft Rules framed by Sind Government.*

Secretary's Note.

The attached draft Sind Cotton Ginning and Pressing Factories Rules,* 1937, which are proposed to be issued under Section 13 of the Cotton Ginning and Pressing Factories (Bombay Amendment) Act, 1936, received from the Sind Government are for information. They closely follow the Bombay Rules.

2. The principal differences are indicated below :—

BOMBAY RULES.	SIND RULES.
Admixture of cotton.	*Admixture of cotton.*
3. (1)	3. (1)
(*a*) A mixture of ginned or unginned cotton with cotton waste, droppings, strippings, fly and other waste products of a cotton ginning factory or a cotton pressing factory.	(*a*) A mixture of *deshi* with American or Egyptian varieties of cotton in which the percentage of the *deshi* cotton exceeds ten per centum.
(*b*) Such prescribed mixtures of different varieties of cotton as are laid down in the attached schedule.	(*b*) A mixture of American or Egyptian varieties possessing a staple length of $\frac{7}{8}''$ and under, with American or Egyptian varieties with a staple length above $\frac{7}{8}''$ in which the percentage of shorter stapled variety or varieties exceeds 15 per centum.
Grant of license.	
5. (2) The fees prescribed for any such license shall be two hundred and fifty rupees and every application for a license shall be supported by a Treasury receipt showing the payment of the said amount in the Treasury.	5. (2) The fee prescribed for any such license shall be Rs. 250 provided that when the license is applied for in respect of cotton ginning factory and a cotton pressing factory located in the same premises, the fee prescribed shall be Rs. 400.
Provided that in the case of factories constructed after the commencement of these rules, a license shall not be granted except upon the production of a certificate from the Chief Inspector of Factories, Bombay, that the structural requirements specified in sub-sections (1) & (2) of Section 9 have been duly provided in the factory for which the application for license is made.	No corresponding proviso.
Authority competent to give a certificate of moisture.	*Authority competent to give a certificate of moisture.*
8. (1) The Director of Agriculture or the Deputy Director of Agriculture of the Division concerned shall be the authority competent to give a certificate as to the normal quantity of moisture that a given quantity of cotton should have, as also the quantity of moisture it possesses.	8. (1) The Director of Agriculture, Sind, shall be the authority competent to give a certificate as to the normal quantity of moisture that a given quantity of ginned cotton should have, as also the quantity of moisture it possesses.

* Not printed.

BOMBAY RULES—(*contd*)

Authority competent to give a certificate of moisture—(contd)

(2) Such certificate may be based on—

(*a*) An analysis of the cotton carried out at any Agricultural Research Station of the Agricultural Department in the Bombay Presidency or at the Laboratory of the Indian Central Cotton Committee Matunga Bombay at the request of the Government of Bombay or the Director of Agriculture acting on behalf of the Government of Bombay

(*b*) The report of such members of the East India Cotton Association

SIND RULES—(*contd*)

Authority competent to give a certificate of moisture—(contd)

(?) Such certificate may be based on—

(*a*) The analysis of the cotton carried out at the Agricultural Research Station at Sakrand or at any other station or farm of the Agricultural Department in Sind or

(*b*) On the report of such members (not less than two in number) of the Karachi Cotton Association Ltd or the Sind Cotton Committee as the Director of Agriculture may generally or specially nominate for examining the cotton

Complaint of offences

9 (2) Such complaint shall be made in writing to the Director of Agriculture or the Deputy Director of Agriculture of the Division in which cotton was pressed and shall be accompanied by a sample of the cotton complained of provided that no such complaint shall be entertained unless a fee of Rs 10 for each bale or package or part thereof is paid at the time of making the complaint

(3) The Director of Agriculture or the Divisional Deputy Director of Agriculture concerned on receipt of such

examination and report to the authority prescribed under these rules

Complaint of offences

9 (2) Such complaint shall be

package or part thereof with a minimum fee of Rs 50 is paid at the time of making the complaint

(3) The authority for this rule is the Chairman, Sind Cotton Committee

Authority competent to examine cotton etc

10—

(1) The Director of Agriculture Bombay

(2) The Deputy Director of Agriculture or

(3) Any two persons selected by the Board of Directors of the East India

Association

Authority competent to examine cotton etc

10—

(*a*) The Director of Agriculture Sind or

(*b*) The Chairman Sind Cotton Committee or

(*c*) Any two persons selected by the Board of Directors of the Karachi Cotton Association Ltd at the request of the Director of Agriculture Sind or the Chairman Sind Cotton Committee from the panel of arbitrators elected under the rules for the time being in force of the said Association

3 As regards the licence fee mentioned in rule 5 (?) it may be stated that the Committee at its last meeting while considering the views of the East India Cotton

Association on the draft rules framed by the Government of Bombay agreed with the Association's view that the license fee should not be more than Rs. 100. This view has been communicated to the Bombay Government.

4. The Committee at its meeting held in March 1937, after considering the Bombay Rules forwarded the following views to the Bombay Government :—

(1) In carrying out moisture tests the Committee desires to suggest to the Local Government that the method adopted by the East India Cotton Association and the Technological Laboratory should be followed. Such tests are at present carried out by the Technological Laboratory with a standard conditioning oven costing about Rs. 1,650.

(2) As regards draft rule 8 (2), the Committee is of opinion that the members of the East India Cotton Association should not be included among the authorities competent to give certificate of moisture tests.

(3) The Committee considers it very desirable that the Act should be put into operation before the commencement of the next cotton season in November 1937 to avoid the difficulties which would arise in dealing with cotton bales watered before the Act is put into force.

5. The draft rules were considered by the Local Sub-Committee at its meeting held on the 29th October 1937. The Sub-Committee observed that the Sind Rules whilst generally following the Bombay Rules were in several respects less strict. It, however, decided that the Local Government should be requested to put the rules into force as early as possible and that, if further amendments were required, they could be incorporated after gaining experience from the working of the Act.

6. Intimation has since been received from the Local Government that the draft rules will be finally published as soon as certain objections submitted have been disposed of.

APPENDIX II.

SUBJECT 13.—*Report of the Cotton Forecast Improvement Sub-Committee.*

The Sub-Committee met at 11 A.M. on the 24th January 1938.

Post-mortem examination of cotton forecasts of 1936-37 season.

The United Provinces :—The Sub-Committee noted that against the forecasted figure of 174,000 bales the approximate quantity of cotton ginned plus village consumption was 203,000 bales, and recommended that the Director of Agriculture, United Provinces, should be requested to examine the whole position in the light of the available information for the last ten years.

The Punjab :—It was found that the actual crop for the Punjab excluding village consumption agreed closely with the forecast figure, but if the figure for village consumption estimated at 233,000 bales on the basis of recent enquiries were included, the forecast resulted in an under-estimate to that extent. It was, however, pointed out that the estimate of village consumption was probably on the high side owing to the fact that the figure of *per capita* consumption of the investigated villages was applied to rural (village) as well as to urban (town) population and it was suggested that the consumption of cotton in towns for domestic purposes should be investigated by the Director of Agriculture, Punjab.

Rajputana and Central India States :—The Sub-Committee observed that the forecasts of these States had been consistently under-estimated and recommended that the Government of India in the Department of Education, Health and Lands, should be requested to take up the question of improving the forecast returns of the States in question through the Residents concerned. In order that such under-estimates might not recur in the all-India forecasts it was suggested that, in the meantime, the Director-General of Commercial Intelligence and Statistics should be requested to investigate the possibility of applying a correction factor to the estimates, on the basis of the figures of actual crop for the last five years.

In regard to Statistical Leaflet No. 5 (1934-36) "Report on the accuracy of the cotton forecasts of 1934-35 and 1935-36 seasons," the Sub-Committee suggested that in future reports an additional table should be included comparing the figures of approximate quantity of cotton ginned plus village consumption with the forecasts, according to major trade blocks. A similar table should also be included, in future, in the usual note on the *post-mortem* examination of cotton forecasts.

A consolidated report on the enquiries into the village consumption of cotton in the different Provinces and States, conducted with the funds of the Committee,

The Sub Committee considered a letter from the East India Cotton Association recommending that Palanpur State should be included under "Rajputana *desi*" instead of "Dholleras" in the revised trade classification of Indian cotton, unless [illegible] Transport Act to the area, and decided [illegible] lture, Bombay, that Palanpur State [illegible] and excluded from the forecasts of

The Sub Committee considered a note on the revision of the standard yield [illegible]

APPENDIX III.

SUBJECT 14.—*Summary of Proceedings of the Local Sub-Committee.*

Secretary's Note.

Four meetings of the Sub Committee were held since the last meeting of the Committee. Messrs G. C. R. Coleridge and S. B. Samoilys have since resigned from the Committee and *the question of filling their vacancies on the Sub-Committee* for the current year will be taken up after the appointment of their successors.

2. Complaints regarding incorrect marking of bales, watering of cotton and admixture in cotton and the action taken thereon were considered and recorded by the Sub Committee.

3. The B. B. & C. I. Railway authorities brought to the notice of the Committee *the fact that* inferior Rajputana *Desi* cotton grown in Jodhpur State was taken to Mehsana and rebooked from there to stations in the Ahmedabad District, Dhinoj [illegible] As it appeared that the [illegible] erable against [illegible] e against the [illegible] of valuation [illegible] Contracts of [illegible] Cotton Trans- [illegible] subject was [illegible] ided that the [illegible] Transport Act [illegible] except under

[illegible]

5. In May 1935 the Bombay *Government* asked for the considered opinion of [illegible]

two of its meetings and its final recommendations in favour of [illegible] options were forwarded to the Bombay Government. The Sub-Committee considered and recorded the decision of the Bombay Government not to proceed for the present with the question.

6. The Sub-Committee considered at its meetings the complaints made by the International Federation of Master Cotton Spinners' and Manufacturers' Associations regarding the presence of foreign matter in Indian cotton. At its meeting on the 30th April, the Vice-President undertook to discuss the matter with Sir Richard Jackson, Chairman of the Lancashire Indian Cotton Committee, whilst he was in London in connection with the Indo-British Trade Agreement. After his meeting with Sir Richard the Vice-President was able to inform the Sub-Committee that as far as Lancashire spinners were concerned there were no complaints regarding Indian cotton and that they were satisfied with it.

7. At its meeting held in April 1937, the Sub-Committee agreed to support a representation made by the East India Cotton Association to the Government of Bombay for the collection, through Government agency, of the statistics of imports of cotton into Bombay by motor lorry. The Sub-Committee considered a letter received by the Association from the Bombay Government stating that the Provincial Government were willing to consider the question of entrusting to the Tobacco Department the duty of collecting the statistics required if, as a result of the examination of the future of tobacco taxation made, the Tobacco Department's duty of examining road traffic was retained. The Sub-Committee decided that the Bombay Government should be requested to make arrangements for the collection of the statistics in question even if the Tobacco Department's duty of examining road traffic were not retained as in its opinion these statistics were absolutely essential.

8. The Sub-Committee considered the question of the proposed replacement of Karunganni C. 7 as one of the standard cottons by K.P.T. 1, and decided that Karunganni C. 7 should continue to be treated as a standard Indian cotton and not be replaced by K.P.T. 1 until such time as the latter had been approved by the trade, and the area under it had expanded sufficiently to enable its performance being judged on a comparative basis.

9. The Sub-Committee considered in November 1937 a letter from the Government of Bombay inviting the views of the Committee on a suggestion made to them for giving relief to the cotton grower from the slump in cotton prices by raising the import duty on those varieties of foreign cotton which competed directly with Indian cotton in India so as to effectively shut them out during the current year. It was decided that the Government of Bombay should be informed that if in the coming few months cotton prices reached parity with American, a protective duty on imported cotton of staple length 1 inch and under would in the opinion of the Committee definitely help the cotton grower.

10. The Sub-Committee considered a representation from the Taluka Development Association, Navapur, on behalf of the Bhil cultivators, regarding the restrictions imposed on the import of cotton from Navapur to places in the Surat district which is protected under the Cotton Transport Act, as a result of which ginning and pressing factories at Navapur were stated to be charging exorbitant rates. The Director of Agriculture, Bombay, agreed to take up the matter with the factory owners concerned and to submit a report in due course. The Deputy Director of Agriculture, N.C.D., submitted a report which indicated that as a result of the negotiations conducted, ginning charges were reduced from Rs. 7-6-3 to Rs. 5-8-0 per *bhar* and pressing rates from Rs. 6-4-0 to Rs. 4-10-0 per bale. The report was considered by the Sub-Committee and it was decided that the Director of Agriculture, Bombay Presidency, should be informed that Rs. 4 per *bhar* for ginning and Rs. 3 per bale for pressing would be a fair charge.

11. The Sub-Committee also considered the following subjects which form separate items on the agenda of this meeting of the Committee and, therefore, have not been detailed here :—

(*a*) Rules under the Cotton Ginning and Pressing Factories (Central Provinces Amendment) Act, 1936.

(*b*) Proposed amendment of Cotton Ginning and Pressing Factories Act in regard to marking of bales.

(*c*) Cotton Ginning and Pressing Factories (Bombay Amendment) Act—Draft Rules framed by the Sind Government.

(*d*) Cotton Policy in Gujarat.

(*e*) Reduction of handling charges on cotton.

(*f*) Wide parity between Broach and American cotton in 1936-37.

(*g*) Present position of cotton.

(*h*) Disposal of improved varieties of cotton grown under the immediate supervision of Agricultural Departments.

APPENDIX IV

Summary 17.—Report of the Wider Markets Sub-Committee as submitted to the Indian Central Cotton Committee on 20th January [illegible].

The Sub-Committee met at 12 noon on the 22nd January [illegible].

Mr. P. H. Rama Reddi was appointed a member of the Sub-Committee for the remainder of the current financial year in the place of M. R. Ry. Dewan Bahadur D. Ananda Rao Garu, resigned.

The letter from the Lancashire Indian Cotton Committee stating that they had no further comments to make on the [illegible] sale of bales of Indian cotton since the matter was reported in March 1937 was recorded.

In pursuance of the decision of the Local Sub-Committee in April 1937, samples of Bengal cotton were sent to the Indian Trade Commissioners, London, Milan and Hamburg with a view to finding out if this cotton could be used for purposes other than the manufacture of textiles. As from a letter from the Lancashire Indian Cotton Committee it appeared that there was not much scope for this cotton amongst manufacturers in England, the Sub-Committee considered that no further action was necessary.

The Sub-Committee considered the replies received from trade bodies on the subject of the proposed establishment of an overseas organisation, which was approved in principle at the last meeting of the Committee, and decided that no further action was necessary as trade opinion was generally not in favour of the proposal.

The Sub-Committee decided that copies of monthly reports on the state of foreign trade in Indian cotton received from the Director General of Commercial Intelligence and Statistics should be sent to trade associations.

The Sub-Committee recommended for sanction the scheme for a cotton marketing survey in the Punjab at an estimated expenditure of Rs. [illegible] spread over a period of 15 months. It was suggested that copies of the scheme should be circulated to commercial bodies for their comments which should be forwarded to the Director of Agriculture, Punjab, for necessary action. It was further suggested that such factories as have ginning and pressing machines should be added to the list under item [illegible] of the scheme.

The Sub-Committee considered a scheme for a cotton marketing survey in India prepared by Mr. [illegible] Livingstone, Agricultural Marketing Adviser to the Government of India, in accordance with the decision of the Committee at its meeting held in August last, and decided that it should be circulated to commercial bodies for opinion in the first instance.

The Secretary's note regarding the Indo-Japanese Trade Agreement, 1937, was recorded.

The President's note on the possibility of increasing exports of Indian cotton to European countries was considered and recorded.

Copy of letter No. [illegible], dated the [illegible] November 1937, from the Director of Agriculture, Punjab, to the Secretary, Indian Central Cotton Committee.

Scheme for a cotton marketing survey in the Punjab.

I have the honour to say that under the Agricultural Marketing Scheme, which is being financed extensively by the Imperial Council of Agricultural Research, marketing surveys are being made for all the principal crops except cotton which appears to have been excluded because all matters relating to the marketing of cotton growing are entrusted to the Indian Central Cotton Committee.

The Indian Central Cotton Committee has been anxious for the past few years for the establishment of regulated cotton markets in the Punjab on [illegible] which

exist at some centres in other provinces but this Department took the view that it would not be economical to establish such markets for the sale of one commodity only and that the better way would be to introduce the necessary reforms in existing markets which deal with all the various farm commodities. Before, however, market reforms can be introduced, it is necessary that an intensive survey of all the crops concerned should be made in order to determine all the directions in which reform is needed.

It is desirable, therefore, that an immediate survey of the cotton crop be made on lines parallel to those used in similar surveys for other crops under the schemes financed by the Imperial Council of Agricultural Research and that the results of this survey should be available at the same time as those of other crops. The attached scheme has been prepared for this purpose and it is requested that the Indian Central Cotton Committee will kindly finance it for a period of 15 months beginning on 1st April 1938, at a cost of Rs. 6,719 according to the details given in the scheme. The immediate supervision of the survey will be done by the Marketing Officer, Punjab, as in the case of other marketing surveys.

The proposal was considered by the Punjab Provincial Cotton Committee at its meeting held on 30th October 1937, and it was unanimously agreed to recommend it to the Indian Central Cotton Committee for acceptance and provision of funds.

Scheme for a Cotton Marketing Survey in the Punjab.

Proposals have been made by the Indian Central Cotton Committee from time to time in the past that regulated cotton markets should be established in the Punjab on lines similar to those which exist at some centres in other provinces. After a thorough examination of the proposal the Department of Agriculture took the view, that it would not be economical to establish regulated markets for the sale of one commodity only. The better way would be to introduce the necesary reforms in existing markets which deal with all the various farm commodities.

Before market reforms can be introduced it is essential that an intensive survey be made in order to determine all the directions in which reform is needed in respect of each commodity. Under the Agricultural Marketing Scheme, which is being financed extensively by the Imperial Council of Agricultural Research, the necessary surveys are being made for all the principal crops except cotton which appears to have been excluded because all matters in the interests of cotton growing are entrusted to the Indian Central Cotton Committee. The net result of neglecting to conduct a marketing survey for cotton is that, when the time comes shortly to consider what improvements can be effected in the various Punjab markets (and presumably the same holds good for other provinces as well), there will not be available to Government the same detailed information as to the existing defects in the case of cotton which has been collected for all other crops and farm commodities. Cotton is a very important crop in the Punjab and if the necessary improvements in marketing it are to be made simultaneously with those for other farm commodities, it is essential that a marketing survey of cotton should be conducted without delay.

Accordingly, it is proposed that a cotton marketing survey be carried out in the Punjab on lines parallel to those used in similar surveys for other crops under the scheme financed by the Imperial Council of Agricultural Research. In drafting the attached synopsis for the survey, the Marketing Officer, Punjab, has drawn freely on the synopses prepared by the Agricultural Marketing Advisor to the Government of India, in respect of other agricultural commodities, but, where necessary, modifications have been introduced to suit the particular requirements of cotton.

It is proposed that the Indian Central Cotton Committee should finance this cotton survey on lines similar to those on which the Imperial Council of Agricultural Research finance surveys of other crops. The immediate supervision of the survey will be done by the Marketing Officer, Punjab, as in the case of other marketing surveys. It is considered that the actual survey work will occupy a period of twelve months and that a further three months will be required for putting the data together and preparing a full and final report. It is requested, therefore, that the Indian

Central Cotton Committee will kindly finance this scheme for a period of fifteen months beginning on 1st April 1938 at a cost of Rs 6 719 according to the details given below —

Item of expenditure	11 months of the 1st year	4 months of the 2nd year	Total
	Rs	Rs	Rs
1 Assistant Marketing Officer @ Rs 200—15—275/15—470 15—500—20—600	2 200	845	3 045
2 Clerks @ Rs 35 1½ 65/2 75	770	289	1 059
1 Peon @ Rs 14	154	56	210
Compensatory Allowance to two clerks @ Rs 3 p m each and to the peon @ Re 1 p m	77	28	105
Travelling Allowance	1 400	400	1 800
Contingencies including stationery	500		500
Total			6 719

SYNOPSIS

Marketing of Cotton in the Punjab

I—*Supply*

(1) *Production*

(a) Acreage and trend of sowings—comparison with other Provinces and States in India

(b) Types and varieties cultivated—proportion of acreage under the more important types

(c) Season of sowing and harvesting

(d) Yield per acre and total production of various types

(e) Quantity (actual or proportion) retained in villages or by producers of —

(i) lint for spinning quilt making etc

(ii) seed for consumption by cattle and for seed etc

(iii) lint and seed for other domestic industries

(f) Season of marketing with particular reference to monthly variations and the normal periods of greatest and shortest supply—effect of natural conditions on flow of supplies

(2) Imports and exports of (i) unginned cotton (ii) cotton lint (iii) cotton seed (iv) cotton seed oil (v) cotton seed cake and (vi) cotton cloth

(a) Quantities

(b) Qualities

(c) Sources of origin of imports and destination of exports

(d) Periodicity

(e) Trend

(f) Factors affecting intra and inter provincial movements

(3) Total and net available supplies of unginned cotton and cotton products in terms of *kapas* (in tons)—value in rupees

II—*Demand.*

(1) Qualitative—(*a*) Characteristics in relation to consumers' requirements with particular reference to preference given by consumers to special qualities for different purposes.

(2) Quantitative—*e.g.*, demand for export, demand from different ginning and pressing factories, demand of lint for spinning, etc., from different sizes and types of mills.

(3) Seasonal variations—causes.

(4) Trend—factors affecting.

(5) Analysis and summary of internal and external demand.

III—*Wholesale prices.*

(1) Prices of cotton and cotton products—general, with a note on the system of trade descriptions and classification for the purpose of price quotations.

(2) Trend.

(3) Prices of different qualities including those derived from different sources, and quality factors affecting prices.

(4) Price variations between different markets—causes.

(5) Seasonal variations—factors affecting.

(6) Range of price variations for the same quality at any given time in a market—causes.

(7) Prices of mixed and unmixed cotton, cotton lint, etc.

(8) Market intelligence or supply of information regarding prices, stocks, arrivals, etc.

IV—*Preparation for Market.*

(1) Methods and time of picking—effect on quality.

(2) Effect of dampness, dry leaves and other impurities on quality with reference to the economics of clean picking.

V—*Assembling.*

(1) Practice of assembling *kapas* :—

(*a*) by individual producers,

(*b*) by landlords and village merchants,

(*c*) by wholesale merchants (including buying agents of ginning and pressing factories, etc.),

(*d*) by Producers' Co-operative Societies.

(2) Finance of assembling :—

(*a*) financial relations between producer and merchants,

(*b*) functions of market associations, banks, etc.,

(*c*) condition of cultivators in regard to hypothecation of standing crops.

VI—*Distribution.*

A—*Wholesale.*

(1) Wholesale markets :—

(*a*) constitution, ownership, functions and types of—

(*b*) customs, practices and charges including regulated exchanges and 'futures' markets.

(*c*) method and time of sale.

(2) Wholesale distribution of *kapas* :—

(*a*) by producers direct,

(*b*) by merchants or commission agents.

(*c*) by agricultural co-operative societies.

(3) Finance of wholesale distribution (advances by banks and other financial agencies).

(4) Wholesale price structure (summary of assembling and distribution charges).

(5) Note on persons engaged in wholesale distribution including description of wholesale trade associations, their constitution and functions.

(6) Malpractices in assembling and distribution with suggestions for removing them.

B—*Retail.*

(1) Retail markets —

(*a*) constitution ownership, functions, etc ,

(*b*) customs, practices and charges

(2) Retail distribution of *kapas* by —

(*a*) producers direct,

(*b*) merchants or commission agents,

(*c*) petty traders

(3) Retail prices and price margins

(4) Note on persons engaged in retail trade.

VII—*Grading and Standardization*

(1) Existing systems of classification.

(2) Practices regarding —

(*a*) sales on samples,

(*b*) sales on fair average quality,

(*c*) sales on basis of standard contracts for internal and export trade,

(*d*) maintenance and observance of contract standards including arbitration arrangements,

(*e*) contracts for trading in futures '

(3) Possibilities regarding grading and standardization.

VIII—*Conservation*

(1) Practices regarding storage (i) in villages, (ii) in the markets, (iii) in ginning and pressing factories and other establishments

(2) Effect of storage on quality

(3) Cost of storage

(4) Note on amount and seasonal variations in stocks and carry overs

(5) Possibilities of improved storage facilities

IX—*Handling and Transportation*

(1) Handling (in bulk and bags)—methods and costs —

(*a*) on the farm,

(*b*) at the market,

(*c*) at the factories,

(*d*) at the rail head,

(*e*) at river head.

(2) Transport—methods and costs by road, rail and water

(3) Directional and quantitative movement with reference to the chief producing and consuming centres

(4) Possibilities of improved handling and transport

X—*Manufacture and distribution of cotton products*

(1) Number, location, capacity, working periods and output of —

(*a*) ginning and pressing factories,

(*b*) cotton seed crushing mills,

(*c*) textile mills,

(*d*) handlooms, *kohlus*, etc

(2) Effect on quality of products turned out by different types of machinery.

(3) Wholesale and retail distribution of various products and containers used.

(5) A note on the cotton seed crushing industry with particular reference to (i) the utilisation of cotton seed oil and cotton seed cake, (ii) methods and cost of manufacture, and (iii) possibilities of development

(6) A note on the weaving industry including the manufacture of khaddar cloth, durries, majnuns, etc.

(7) A note on the manufacture of mercerised cotton cloth and on the substitutes employed in various industries in place of cotton and cotton products.

(8) Adulteration and possibilities of standardisation.

(9) Analysis and summary of internal and external demand for different products.

(10) Manufacturers' associations—constitution and functions.

(11) Possibilities of development in regard to the manufacturing of cotton products.

XI—*Seed.*

(1) Supplies :—(*a*) Sources, (*b*) Distribution.

(2) Control of seed.

(3) Research institutions.

(4) Further possibilities of improved seed production.

XII—*Weights & Measures and Units of Sale.*

Note on weights and measures in current use in regard to :—

(*a*) size and nature of weights,

(*b*) scales employed,

(*c*) nature of measures,

(*d*) customary units of sale :—

(i) for the purpose of price quotation,

(ii) for transacting delivery.

XIII—*Summary and concluding observations.*

APPENDIX V.

SUBJECT 20.—*Technological Research—Report of the Technological Research Sub-Committee.*

The Technological Research Sub-Committee met at 10-30 a.m. on Saturday, the 22nd January 1938.

Mr. P. H. Rama Reddi was appointed a member of this Sub-Committee for the current financial year *vice* M. R. Ry. Dewan Bahadur D. Ananda Rao Garu retired.

The Sub-Committee approved of the suggestion that proposals for the carrying out of tests on samples to ascertain the effect of rotation, sowing dates and differential irrigation on the quality of cotton should first be considered by the Agricultural Research Sub-Committee before such work is undertaken at the Laboratory. It was explained that such tests stood on a different footing from those on samples sent by plant breeders for the usual fibre or spinning tests.

With regard to tests on the effect of humidity on the spinning performance of Indian cotton, it was decided that the tests on another 7 or 8 cottons should be completed and the results obtained placed before the Technological Research Sub-Committee to enable it to fix a standard for the future.

The report of the Director, Technological Laboratory, was approved.

The Revised Estimates* for 1937-38 and the Budget for 1938-39 were approved.

The report of the Director on the work done at the Conference of Technological Assistants and the Senior Staff of the Laboratory was approved.

The progress reports of the two Research Students, Messrs. M. U. Parmar and G. Rama Rau were recorded. On the recommendation of the Director, the extension of the scholarship of Mr. M. U. Parmar for a further period of six months was approved.

The proposals submitted by the Director of Agriculture, Punjab, in consultation with Mr. W. Roberts for research into the improvement of cotton ginning machinery which had been postponed from the last meeting were considered. It was decided that a Special Sub-Committee consisting of the Vice-President (as *ex-officio* Chairman) and Messrs. Stones, Vonesch, Saraiya, Kasturbhai Lalbhai and Dr. Nazir Ahmad should be appointed to draw up an alternative scheme for investigation of the problem at the Technological Laboratory.

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* Not printed.

The Sub Committee considered an application from the Junior Testers and Statistical Clerks of the Technological Laboratory for a revision of their grades of pay and decided that no revision was necessary

The Sub Committee considered and approved of the correspondence between the Director and the Textile Institute Manchester regarding copyright arrangements in connection with the publication of the Technological Bulletins of the Laboratory in the Journal of the Textile Institute

The Director s report on the first Conference of practical carders and spinners and the Senior Staff of the Laboratory was recorded On a suggestion that invitations for the Conference should be sent direct to all the mills in India it was recommended that the present system of convening such conferences should be continued but that the various organisations should take steps to make them more representative of mill interests from all parts of India

The Sub Committee approved of the proposal of the Director for the purchase of a weft ring frame at a cost of Rs 870 to be met from the balance under the capital grant for the Technological Laboratory

The Sub Committee approved of the proposal of the Director for investigating the effects of storage on the quality of certain Indian cottons viz Bengals Khandesh Punjab American Broach Surat and Cambodia and recommended that either Kumptas or Farm Westerns should be added to the varieties selected by him

The Sub Committee considered a scheme submitted by the Director, Technological Laboratory for the dissemination to the trade and industry of technical in

[illegible]

to be fixed by the Standing Finance Sub Committee

The Sub Committee considered a letter from the Bombay Millowners Association suggesting that the Technological Laboratory should act as the official B I S F A Testing House for tests or

of the Laboratory as the

Europe would add to its

could be easily carried out at the Technological Laboratory [illegible]

be accepted It was also decided that tests on artificial silk yarns may be undertaken with an additional charge of 50 per cent over the usual rates

[illegible]

be obtained and placed before the Standing Finance [illegible]

In view of the proposed investigations it was decided that the services of Dr L Thoria Temporary Chemist should be retained for a further period of one year

APPENDIX VI

SUBJECT 21 —*Extract from the Report of the Research Students Selection Sub Committee*

The Sub Committee considered a suggestion from the Director of Agriculture, Sind that the practice of awarding research scholarships only when there was a probability of the men trained thus being employed on the Committee s schemes or in Provincial Departments of Agriculture should be substituted by a system under which suitable graduates already in service would be selected for special courses of training with a view to their eventual appointment either in special posts to be created or in likely vacancies The opinion of the Sub Committee was that in such cases provincial Governments should take steps to train their own men

The proposal for the award of a foreign training grant to Mr H V Idnani, Cotton Supervisor, Indus Left Bank, Mirpurkhas was not approved

APPENDIX VII.

SUBJECT 31.—*Summary of the Report of the Agricultural Research Sub-Committee.*

I. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON PROGRESS AND FINAL REPORTS ON SCHEMES.

Punjab Physiological Scheme and proposals for additional grant (No. 22).

The Sub-Committee first examined the report made by Dr. Mason who had stayed at Lyallpur for three and a half months—July to mid-October—and had thoroughly gone into the question.

The Sub-Committee considers that the report comes to some very definite and helpful conclusions. Dr. Mason has discovered that there are two kinds of bad opening in the Punjab. One of these which he classed nutritional bad opening is common in other countries as well and in this type of bad opening the seed is hard, *i.e.*, there is an embryo in it. In the other type of bad opening, which is peculiar to the Punjab, the seed is hollow, *i.e.*, the embryo has aborted and not developed. This, according to Dr. Mason, looks like the poisoning of the embryo, and other indications lead him to believe that Tirak is due to alkali poisoning probably mainly due to sodium carbonate enhanced by unfavourable climatic conditions. He has, therefore, suggested, amongst other things, an extensive soil study.

The Sub-Committee then considered Professor Dastur's report particularly his programme and suggests modifications in order to make it conform more closely to Dr. Mason's recommendations :—

(1) Professor Dastur's No. 1 experiment is to include carbonates, bicarbonates, sulphates and chlorides of sodium, potassium, calcium and magnesium and is to be done on a field scale in small plots with sufficient replications.

(2) It was pointed out by Dr. Burns and Mr. Stewart that Professor Dastur had misunderstood the directions of the last year's Sub-Committee regarding time sequence. The wordings of that Sub-Committee's instructions clearly indicated that what was required was a picture of the significance in which the various symptoms described by Professor Dastur occurred in the plant and not the relationship of the time of attack to the final yield. The Sub-Committee considers that the original instructions should be carried out and at the same time the additional work which Professor Dastur had done on the relationship between the time of attack and yield should be continued.

(3) *Method to determine tannins.*—This is approved.

(4) *Relative resistance of various cotton varieties to alkali.*—It is recommended that this item be omitted.

(5) *Physical and chemical investigation of good and bad patches of soil.*—This is approved.

(6) *Investigation of mineral uptake of plants growing in good and bad patches.*—This is approved.

(7) The Sub-Committee recommends that an experiment with sufficient replication should be laid out in the field to contain the following terms :—

(i) Control,

(ii) Gypsum and flooding,

(iii) Green manure,

(iv) Artificial fertilisers, nitrogen, phosphorus and potassium together,

(v) Green manuring plus artificial fertilisers, and

(vi) Silt from channels.

Coming to the budget*, the Sub-Committee recommends that the additional staff sanctioned for the last two years should be continued and that the Rs. 10,000 asked for should be sanctioned. In connection with this, the Sub-Committee is of opinion that the soil survey to connect up soil conditions with cotton failure should be done as recommended by Dr. Mason on a larger scale and that this work should be under the control of Dr. Lander, Agricultural Chemist, Punjab, who has already

* Not printed.

got in hand a scheme of soil survey into which it is believed this additional work could be fitted It is suggested that a special apparatus for soil survey work as may be required may be got from the grant of Rs 10 000 and the remainder may be utilised for microchemical work and work on the smaller experiments which will be done at Lyallpur

The Sub Committee recommends that a Resolution be passed by the full Committee expressing the Committee s appreciation of the readiness and generosity of the Empire Cotton Growing Corporation in giving the services of Dr Mason to report on the scheme

Final Report on Sind Physiological Scheme (No 25)

The Sub Committee considers —

(1) that in the editing of Mr Dabral s report it would be necessary to go carefully into the facts as to the history of Sind *Sudhar* and the actual experimental work done on it by Mr Dabral

(2) that in connection with experiments on the time of sowing the nature and significance of both lines of evidence *i e* those from growth studies and those from *ad hoc* field experiments should be clearly indicated,

(3) that as regards the amount of water inferences regarding duty should be indicated as such and

(4) that with reference to the manurial experiments the fact that significance was not obtained but that indications were sufficient on which to base recommendations should also be made clear

The Report contains a great deal of very valuable data obtained over a long period of years The Sub Committee considers that these should be made available as quickly as possible and suggests that for this purpose editing and condensation

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considers that a lump honorarium for the whole work might be the best way of paying for it

Scheme for survey of cotton in Rohilkhand and Bundelkhand United Provinces—Proposal for appointment of Senior Assistant for writing up fresh detailed report

(No 51)

The Sub Committee after examination of the final report considers that no further useful information other than that contained in the report can now be obtained and that detailed botanical description of types which will be for the

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ion

meeting of the Committee

United Provinces C 402 Seed Distribution and Extension Scheme—Review of—(No 26)

The Sub Committee is of the opinion that the area under C 402 cotton is not likely to expand to the extent that would warrant the Committee to spend any further money on it when other schemes are being held up This view of the Sub Committee is supported by th [illegible] Chamber of Commerce at their meeting [illegible] nnce to this cotton states [illegible] nlikely to expand to cover the tract [illegible] r of local collections of great promise [illegible] pment in this area The best strains [illegible] possible

Meanwhile, the development attained with C. 402 is to be maintained departmentally." In view of this and the inadvisability of pushing a cotton which is dependent on early canal water, the Sub-Committee recommends that this scheme should close down from the end of the current financial year.

II. Report of the Agricultural Research Sub-Committee on Seed Distribution and Extension Schemes.

(a) New Schemes.

Scheme for financing Seed Distribution in Sind (No. 29-(a)).

The Sub-Committee is of the opinion that any grant sanctioned in connection with such schemes should be subject to the principle that no capital expenditure should be put up by the Committee. With this reservation, the Sub-Committee approves of the scheme,* but recommends that it should not be put into operation until the Ginning and Pressing Rules as approved by the Local Sub-Committee are brought into force.

With regard to the estimates of expenditure under item B, C, and D at page 3 of the note on the subject, the Sub-Committee recommends that the Committee should bear the charges under C amounting to Rs. 45,000 and the Sind Government the expenditure under B and D amounting to Rs. 15,250. This recommendation is in accordance with the decision of the Committee in regard to the financing of new seed distribution and extension schemes.

Scheme for maintenance of nucleus of pure seed in Madras Presidency (No. 29-(b)).

The Sub-Committee recommends the scheme† for five years in the first instance at a cost of Rs. 610 per annum for the maintenance of a nucleus of pure seed of the varieties Co. 2, H-1 and K.P.T. 1. With regard to K.P.T. 1, the Sub-Committee notes that it does not come within the strict terms of the Indian Central Cotton Committee's original resolution regarding the maintenance of nuclei of seed of improved cottons in that the distribution of this improved variety has not been approved by the Committee. However, as this variety has now extended over 13,000 acres, the Sub-Committee recommends that it be included in the scheme.

(b) Extension of Schemes.

Khandesh (Jarila) Scheme (No. 27 (a)).

The Sub-Committee recommends that this scheme should be extended for another three months with effect from 1st March 1938 and that the Committee should agree to meet the full expenditure on it during this period amounting to about Rs. 3,000 on the understanding that the results of field trials, data concerning the spinning and commercial qualities of bulk samples and the decision of the Provincial Government regarding the share of expenditure to be borne by them will become known by the end of that period. The Sub-Committee further recommends that the results of field trials and spinning performance of this cotton should be circulated to the members of the Agricultural Research Sub-Committee and, if the reports are satisfactory, the Standing Finance Sub-Committee should be authorised to sanction the scheme for a period of one year subject to the acceptance by the Bombay Government to meet their share of expenditure in accordance with the proposal of the Director of Agriculture, Bombay. As the amounts in question are small, the Sub-Committee does not think that the division of receipts between the Committee and the Provincial Government should be insisted upon.

Madras Co.2 Scheme (No. 27-(b)).

The Sub-Committee believes that the scheme can now be worked on a self-supporting basis and that the question of the maintenance of purity should henceforward be looked after by Government. The Committee should agree to give the assistance of one Demonstrator and one *Mistry* to help the Society for a period of one year, after which no further assistance from the Committee should be required.

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* Printed (page 64).
† Printed (page 67).

III. Report of the Agricultural Research Sub Committee on Agricultural Research Schemes.

(a) New Schemes.

Scheme for investigation into Black-headed Cricket in Sind (No. 28-(a)).*

The Sub-Committee considers that, in the first instance, research work should be conducted towards (a) identification of the pest, (b) life history and seasonal behaviour and (c) estimation of damage caused. For this purpose, it recommends that the scheme should be sanctioned for three years subject to review at the end of one year, its subsequent continuance being dependent on the supply of satis

tioned, work should be concentrated upon items 1, 2 and 3 of the suggested programme of work and that no work should be done on control measures, pending the result of the first year's investigations The Sub-Committee desires to note with regard to the control measures suggested in the scheme that, in view of the shortage of organic material for compost manufacture, it would be inadvisable to recommend the burning of crop residues as a method of control.

Scheme for research on the improvement of Punjab American 289F cotton (No 28-(b)).

the cross K.25 and 43F are approved.

Scheme‡ for interspecific hybridisation in cottons at Surat (No. 28-(d)).

Dr. Badami informed the Sub-Committee that Dr Ruggles Gates would be very willing to undertake the cytological study of any material sent from such research and the Sub-Committee accordingly approved the cutting out of the cytological work and the travelling allowance of Rs. 200 that would go with it The Sub-Committee recommends that the work on this scheme should be limited to items (1) to (6) of the programme of work. It suggests also that the work should be duplicated at Indore and that during its progress Mr Hutchinson's advice should be obtained if possible. The scheme is otherwise approved.

Scheme for investigation of Heliothis obsoleta as a pest of cotton in the Central Provinces and Berar (No. 28 (e)).

of this nature, involving is essential to determine which is a general pest which is attacking cotton s needed for such an in-

pest is finally determined, ... the scheme should be deferred.

The Sub-Committee also desires to draw attention to the first finding of the special meeting ... Research Sub Committee in June 1934, which met to decide ... mittee's research schemes, viz: "A comp ... to-date work done and the knowledge gai ... parts of the world should accompany each scheme." Such a summary does not accompany the scheme under consideration.

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* Printed (page 69). † Printed (page 73). ‡ Printed (page 75).

United Provinces Botanical Scheme (No. 28-(f)).

This is an attempt to restart on a suitable scale cotton work in the United Provinces where there are at the present moment only three cottons—A. 19, C. 520 and C. 402 of which A. 19 and C. 402 are not very satisfactory. Part I of this subject simply has to be done if the results of the surveys are to be carried to their logical conclusion. Part II is an attempt to try short and medium staple types against the local Pink Bollworm controlled areas and other cotton tracts of the province, to try longer staple varieties in similar tracts and to test selections from improved types in other provinces. The Sub-Committee approves of the scheme* and the budget.

(b) EXTENSION OF SCHEMES.

Madras Herbaceum Scheme (No. 49).

The Sub-Committee notes that this scheme has been running for 15 years and hence considers that to justify further financial help special technical or scientific reasons are necessary. The Sub-Committee is of opinion that such special technical or scientific reasons do not exist since 22 types have been evolved and all that is now required is district trials. The Sub-Committee was not entirely satisfied with the proposals for these district trials and does not recommend the extension of the scheme.

Madras Pempheres and Physiological Scheme (No. 56).

The Sub-Committee recommends the extension applied for for a period of two months at a cost of Rs. 4,100 to be met from savings under the scheme.

IV. REPORT OF THE AGRICULTURAL RESEARCH SUB-COMMITTEE ON PROPOSED NEW MARKETING SCHEME.

Proposal for the better marketing of 1027 A.L.F. cotton of the Baroda State (No. 36).

The Sub-Committee recommends that the scheme† should be sanctioned for a period of three years subject to the condition that it should be reviewed annually and continued only, if satisfactory.

As regards the budget estimates for the scheme as given at page 4 of the note on the subject, the Sub-Committee considers that (1) in view of the Committee's accepted policy that land and buildings should be provided by the Government or State receiving grants from the Committee, the item of rent and rates should be borne by the Baroda Government, (2) furniture, for which a provision of Rs. 300 per year has been made, should be provided by the Baroda Government, (3) the estimate of Rs. 300 for printing should be reduced to Rs. 100, (4) the number of peons should be cut down from 2 to 1, and (5) the allowance proposed for the Marketing Officer should be termed "compensatory allowance" and reduced to Rs. 50 a month, *i.e.*, 25 per cent. of his pay. This will reduce the total estimated cost of the scheme (spread over three years) from Rs. 10,296 to Rs. 6,726, to be met by the Committee.

V. GENERAL.

Growing of cotton in the United Provinces (No. 23).

The Sub-Committee approves of the policy suggested in Enclosure III for the improvement of cotton in the United Provinces, as arrived at by joint discussion between the Upper India Chamber of Commerce and the Director of Agriculture and considers that any scheme or schemes which would give effect to this should be favourably considered, as progress in this tract in the past has not been compatible with its importance.

Institute of Plant Industry, Indore—Budget for 1938-39 and programme of work (No. 30).

The Sub-Committee recommends a basic grant of Rs. 85,000 for the financial year 1938-39 for the Institute of Plant Industry, Indore, and a supplementary grant of Rs. 15,000. The Programme of work for 1938-39 is approved.

Cotton Policy in Gujarat (No. 37).

The Sub-Committee understands from the Director of Agriculture, Bombay, that the Hon'ble Minister is willing to consider the establishment of separate zones under the Cotton Transport Act and control in ginneries as an additional measure to prevent the mixing of 1027 A.L.F. with inferior cottons and that the Bombay Government have under consideration the application of the Cotton Ginning and

* Printed (page 83). † Printed (page 80).

Scheme for financing seed distribution in Sind :

Compact Block of Long Stapled Cotton (225,000 bales).

Introduction.—Prior to the establishment of perennial irrigation under the Barrage in 1932, the average annual acreage under cotton was 300,000 acres and the average annual production in bales of 400 lbs. was 96,000. The acreage has now increased to 900,000 and the annual production is 500,000 bales. During the pre-Barrage period the principal variety grown was Sind *deshi* and the area under American Cotton was 25,640 acres only and the acreage now under American cotton is 550,000 acres out of a total area of 900,000. The variety of Sind-American cotton commonly cultivated is Sind 4F. During the last few years some undesirable types of cotton, *viz.*, N.T. and K.T. types, have been imported from the Punjab and have been found to be more susceptible to jassid attack and Red Leaf disease. They are also found to be undesirable from trade point of view owing to deterioration of staple and admixture. Press Notes have been issued and much propaganda has been carried on by the Agricultural Department to discourage the cultivation of these types and to push the cultivation of the more suitable improved types, *viz.*, Sind *Sudhar* and Sind 4F-98 described hereunder :—

2. *Improved long stapled varieties recommended by the Agricultural Department.*—The Agricultural Department in Sind have been carrying out extensive research work on the improvement of the cotton crop of Sind. As a result of this work improved varieties of American and Egyptian cottons have been evolved. Higher quality improved cotton strains, *e.g.*, Sea Island 2-4 and Boss III-16, possess a staple length of 1¼" to 1½" and are suitable for spinning 70 to 80 counts. The medium quality improved strain of Sind-American cotton 4F-98 has a staple length of ⅞" to 15/16", and is suitable for spinning 34 counts and the intermediate quality Sind-American type, *viz.*, Sind *Sudhar*, has a staple length of 1" and is capable of spinning 40 counts. In point of yield of seed cotton per acre the high quality cotton (Sind Sea Island and Boss III) which are more susceptible to seasonal variations are capable of yielding 50/70 per cent. of the medium intermediate quality Sind American cottons, *viz.*, Sind 4F-98 and Sind *Sudhar*. Both of these cottons are high yielding. The highest yields amounting to about 18 maunds (1500 lbs.) of seed cotton are obtained on the Government Farms, Oderolal and Padidan from Sind *Sudhar* cotton which is now the standard cotton on the Left Bank areas. These improved strains of Sind American cotton, *viz.*, Sind 4F-98 and Sind *Sudhar*, appear to be suitable for current trade requirements and consequently a good premium in price is obtained by the growers of these cottons. Even now when the prices are low Sind *Sudhar* cotton fetches a premium of Rs. 5-8-0 to Rs. 6 per maund of lint (ginned cotton) on ordinary Sind 4F. Attention is invited to the steps taken by the Indian Central Cotton Committee to move the authorities in Sind for the establishment of a Compact Block of long stapled cotton in the Barrage areas of Sind and to keep that block pure and free from admixture of *desi* cotton. The whole district of Thar Parkar is now growing Sind American cotton and the area under *desi* cotton in that area is very small. American cotton cultivation has now extended to the neighbouring parts of Hyderabad and Nawabshah Districts. The improved varieties of long stapled cotton now occupy an area of about 80,000 acres only out of a total area of 550,000 acres under Sind American mostly ordinary Sind 4F. At the last meeting of the Indian Central Cotton Committee considerable discussion took place as to the reasons why more area was not being grown under long stapled 'Sind *Sudhar*' cotton evolved by the Sind Agricultural Department. It was then pointed out that there was great need for financing seed distribution in Sind. As the result of these discussions a resolution was passed in which Rao Saheb K. I. Thadani, Director of Agriculture, Sind, was requested to prepare a considered scheme for financing seed distribution in Sind.

3. *Scheme of Seed Multiplication and its present position.*—The following plan has been adopted for multiplication of pure seed and maintenance of its purity by the Sind Agricultural Department :—

	Stage.	*Area in acres.*	*Location.*
1.	Seed patch	45	Agricultural Research Station, Sakrand.
2.	Increase block	450	Government Auxiliary Farms.
3.	Field Scale Planting	4,500	'A' Class growers.
4.	Village Groups	45,000	'B' Class growers.
5.	General cultivation	450,000	

The seed produce from the first stage viz., Seed Patch at Sakrand, is grown on the Government Auxiliary Farms (2nd stage—Increase Block) and that of the 2nd stage on the lands of 'A' class growers (3rd stage—field scale plantings) and that of the 3rd stage on the lands of 'B' Class growers (4th stage). The Agricultural Department have an organisation to fully control the first three stages covering an area of 5,000 acres in order to keep the crop pure and free from admixture both in the field and in the ginning factory and also to distribute the seed so produced among the zamindars and farmers by means of village seed depots. This organisation consists of the staff of the Agricultural Department on Government Farms and the Cotton Extension staff of the Indian Central Cotton Committee and the Departmental Village Seed Depôts in charge of Depôt Kamgars of the Agricultural Department. The crop in all the first three stages is carefully inspected and all foreign and off type plants eradicated in order to keep the crop pure by means of roguing parties. The produce of the first two stages is ginned in the Government Ginning Factory of the Agricultural Department specially provided by Sind Government for this purpose in order to maintain purity of seed. The produce of the 3rd stage i.e. 'A' class registered growers who have their own ginning factories is ginned under the supervision of the Cotton Extension Staff in those factories although some portion is ginned in the Government Ginning Factory also. Thus pure seed is made available for planting an area of 45,000)

[illegible]

The Cotton Extension Staff is enough to control the 4th stage provided money could be found for 'roguing' of the area (45,000 acres) and for supervision at the time of ginning in order to keep the crop pure and if funds are available to purchase seed, gunny bags, storage, insurance, etc. and at the same time if a sufficient number of seed depôts for sale of seed are opened in all principal villages. The experience of the last few years in fully controlling the first three stages involving distribution of about 30,000 maunds of seed per year has clearly indicated that if funds are available pure seed of long stapled cotton for a compact block of 450,000 acres could be made available for general cultivation. As a rule there is no loss in seed transactions so far as purchase and sale prices are concerned. On the other hand there is always some margin of profit. But it must be confessed that there is some element of risk of some loss if there is abnormal fall in prices of the seed at the time of sale. This condition, however, has not occurred during the last three or four years. But any such risk must be taken. Hence in order to secure pure seed of improved cottons from the fourth stage (45,000 acres) for general cultivation, it is at first essential to have funds for the maintenance of the purity of this crop both in the field and in ginning factory and for opening about 150 village seed depots for distributing 150,000 maunds of seed produce of this area and at the same time it is necessary to have financing arrangements for the purchase of seed and gunny bags.

4. *Scheme for financing seed distribution*

Three important steps are to be taken :—

(1) Maintenance of purity of a block of 45,000 acres. The fields will be inspected and all off type and foreign plants removed, particularly *desi* cotton. The produce will be stored and ginned separately from other material under the supervision of the Agricultural Department.

(2) Purchase of seed amounting to 150,000 maunds. The 'B' class growers (4th stage) as a rule sell their produce as seed cotton to the ginning factories and have no control over seed.

The ginning factories who purchase the produce are prepared to store and gin the produce separately from other stuff under the supervision of the Agricultural Department provided seed is purchased from them at some premium over the ordinary feeding seed. They are also prepared to give better price to the growers who have carried out the instructions of the Agricultural Department regarding maintenance of purity of the crop in the field and obtained a certificate of purity. Funds for purchase of seed will be required in the month of October.

(3) *Distribution of seed.* For this purpose it would be necessary to open 150 seed depots in all principal villages so as to make the pure seed of long stapled cotton available for the small peasant at his very door. At present only the

... seed from existing seed depôts but the ... supply from the village *Bania* or the ... on cash payment and all recoveries on ... effected by end of May.

... there is no loss in seed transactions considering ... of grading and cleaning, etc. But the expenditure ... of purity of the crop and seed distribution, *i.e.*, opening ... from the sale of seed but must be borne by those ... pure supply of long stapled cotton. The cost on this ... to about Rs. 0-4-0 per bale of cotton so produced.

... expenditure and receipts are as follows :—

Expenditure.

A. *Seed and Bags.*

			Rs.
... 15,000 maunds at 1-4-0 per maund	..	..	1,87,500
..., storing, etc. at 0-2-0 per maund	..	..	18,750
... gunny bags at Rs. 30 per 100 ..	..	..	45,000
			2,51,250

... *of purity in field (45,000 acres) and gin house* (225,000 maunds *kapas*).

			Rs.
... work—the growers do the actual roguing ... of the trained coolies who also assist in ... 3 months at Rs. 20 p.m.)	..	..	12,000
... 25 p.m. for four months	..	..	2,500
			14,500

C. *Seed Depots.*

... 0-2-0 per maund ... 750

(Rs. 25) at Rs. 35

Expenditure per ...

Receipts per ...

enlightened *zamindars* get the improved seed from existing seed depôts but the bulk of the small farmers obtain their seed supply from the village *Bania* or the ginning factory. The seed will be sold on cash payment and all recoveries on account of sale of seed will be effected by end of May.

As already stated that as a rule there is no loss in seed transactions considering the purchase price and cost of grading and cleaning, etc. But the expenditure involved in maintenance of purity of the crop and seed distribution, *i.e.*, opening of seed depots cannot be recovered from the sale of seed but must be borne by those bodies who are interested in pure supply of long stapled cotton. The cost on this account will amount to about Re. 0-4-0 per bale of cotton so produced.

The estimates of expenditure and receipts are as follows :—

Expenditure.

A. *Seed and Bags.*

		Rs.
1.	Purchase of seed 150,000 maunds at 1-4-0 per maund	1,87,500
2.	Grading—Filling bags, storing, etc. at 0-2-0 per maund	18,750
3.	Purchase of 150,000 gunny bags at Rs. 30 per 100	45,000
		2,51,250

B. *Maintenance of purity in field* (*45,000 acres*) *and gin house* (225,000 maunds *kapas*).

	Rs.
(*a*) Field purity—roguing work—the growers do the actual roguing under the supervision of the trained coolies who also assist in the work (200 men for 3 months at Rs. 20 p.m.)	12,000
(*b*) Supervision in ginning— 25 Superintendents at Rs. 25 p.m. for four months	2,500
	14,500

C. *Seed Depots.*

(*a*) Freight and cartage to seed depots at Re. 0-2-0 per maund ..	18,750
(*b*) Rent of depot (Rs. 10) and pay of salesman (Rs. 25) at Rs. 35 p.m. for 150 seed depots for 5 months	26,250
	45,000

D. *Miscellaneous.*

(*a*) Pay of Accountant for 8 months at Rs. 50	400
(*b*) Miscellaneous Office Expenses	350
	750
Grand Total ..	3,11,500

Receipts from sale of seed.

	Rs.
Sale of 150,000 maunds of seed at Re. 1-8-0 per maund	2,25,000
Sale of gunny bags	40,000
	2,65,000

Expenditure per year	3,11,500
Receipts per year ..	2,65,000
Rs.	46,500

Application for an annual grant for the maintenance of a pure seed nucleus in three varieties of cotton grown in the Madras Presidency.

Improved strains have been isolated in the commercial cotton varieties of Cambodia, Westerns, Tinnevellies, Northerns and Coconadas. Those from the last two are yet in the early stages of seed multiplication, while those evolved from the first three are under cultivation over fairly large areas as shown in the statement.

Name of Commercial Cotton.	Name of the strain.	Area under cultivation.
Cambodia	Co.2	200,000 acres.
Westerns	H.1	227,000 „
Karunganni	K.P.T. 1.	13,320 „

2. Of these the spread of the first two strains has ben approved of by the Committee (*vide* seed distribution schemes for Co.2 and H1. cottons sanctioned in August 1932). The third strain which was evolved recently was tested at the Koilpatti Agricultural Research Station and at several centres in the districts for more than three years. As its yield performance was found to be significantly better, it was decided to replace the two old strains of Karunganni (A. 10 and C.7) with a new strain named as K.P.T.1 The department is maintaining, on a small scale, seed farm for its seed multiplication. It contemplates approaching the Indian Central Cotton Committee for financial help to spread this new strain in the Tinnevellies and Salems tracts as quickly as possible. As a preparatory step it wishes to increase the quantity of selfed seeds available.

3. An estimate of the expenditure required to grow, and to self the flowers in one acre in the strain Co.2 and two acres in the two strains of H1. and K.P.T.1 is furnished below. The larger area provided in the case of the latter two strains is due to their low yield of *kapas* per acre.

Details.	Strain Nos.			
	Co.2 (One acre.)	H.1 (Two acres.)	K.P.T.1 (Two acres.)	Total.
	Rs.	Rs.	Rs.	Rs.
Cultivation charges including cost of irrigation in the case of Co.2	77	30	38	145
Additional cost of picking and ginning	11	16	16	43
Selfing charges including supervision	122	144	156	422
Total ..	210	190	210	610
Quantity of selfed seed expected	500 to 600 lb.	140 lb.	200 lb.	
Agricultural station at which the seeds will be prooduced.	Central Farm, Coimbatore.	Hagari.	Koilpatti.	
Officer responsible for producing the seed.	Superintendent, Central Farm.	Superintendent, Dry Farming Station, Hagari.	Superintendent, Koilpatti.	

The total annual grant required to maintain a nucleus of seed in the three strains will be Rs. 610.

Investigation of Black-Headed Cricket in Sind

INTRODUCTORY —A preliminary note on insect pests and plant diseases of cotton in Sind is herewith attached An Assistant Entomologist is being appointed at Sakrand

As the result of Sind Seed Distribution Scheme financed by the Indian Central Cotton Committee, it has been possible to introduce cultivation of cotton in the [illegible] this cultivation was entirely [illegible] ars increased to 60 000 acres [illegible] development of cotton culti [illegible] tracts situated at the foot of [illegible] recently threatened with the appearance of an insect known as the black headed cricket

This insect has a special liking for young cotton plants in the seedling stage but it is capable of devouring even cotton seed sown into the ground before it has a [illegible]

setback

The following observations have been recorded during the course of last two years

[illegible]

do not like wet conditions and disappear at the end of May It cotton is sown in March it escapes the attack of these insects but all cotton sown in April and May is liable to attack by this pest This pest prefers stiff soil subject to cracking It is therefore necessary to investigate on the following problems —

(1) *Entomological* —Dealing with life history, seasonal history—alternative food plant, breeding grounds, incidence of attack on different varieties Trials of poisonous baits, burning of waste materials and residue of *rabi* crops left over in threshing yards where these insects collect before cotton is sown

[illegible] all such measures as [illegible] tment study of the [illegible]

Proposals —The Department of Agriculture Sind, will provide apparatus labo- [illegible] The Indian Central [illegible] one [illegible] tin- [illegible]

PROGRAMME OF WORK

(1) Habits of insects—their food plants

(2) Breeding grounds, comparative infestation of different crops—varieties of cottons.

(3) The association of the pest with weather, soil, and agricultural conditions, e.g., hot weather, rain, nature of soil, cultivation, time of sowing, irrigation, etc.

(4) Direct control measures, *e.g.*, poisonous baits, burning of residue of *rabi* crops. The staff required and the expenditure involved are given below :—

	September 1937 to March 1941.			
	1937-38. (6 months).	1938-39.	1939-40.	1940-41.
Pay of officers.				
(*a*) Research Assistant 150–10–180 ..	900	1,920	2,040	2,160
(*b*) Field Assistant 30–5–45 ..	180	420	480	540
Provident Fund at 1/12th ..	90	195	210	225
Leave salary	90	195	210	225
Contingencies	170	300	300	300
Travelling allowance	250	300	300	300
	1,680	3,330	3,540	3,750

1937–38 ..	1,680
1938–39 ..	3,330
1939–40 ..	3,540
1940–41 ..	3,750
	12,300

Extract from Agricultural Leaflet No. 9 (1st Edition—July 1937) entitled "A Preliminary Note on Insect Pests and Plant Diseases affecting the cotton crop in Sind."

* * * * * * *

(6) *Black-headed Cricket* :—This pest has been known to occur in *Kacho* lands at the foot of the hills flooded with rain water and to attack *jowar* and cotton crops. It has a special liking for cotton seedlings and rapidly moves down to neighbouring land, where cotton is growing. Complaints about damage by this pest have been received from Shahdadkote, Johi and Dadu Talukas. Young insects make their appearance in early April —by beginning of May, they become very active and very soon develop wings. They are nocturnal in habit and try to take shelter and hide in the cracks and crevices in the soil or under big clods during the day. Young seedlings under 10 days of age are affected the most, and large areas are devastated. They do not like wet conditions and disappear at the end of May. If cotton is sown in March, it escapes the attack of these insects but all cotton sown in April and May are liable to attack by this pest. This pest prefers stiff soil subject to cracking. Poisonous baits have been found useful in destroying this pest. All straw and other waste material left over after threshing oil-seed crops should be burnt as this insect collects over this material particularly rape-seed. All weeds and other undesirable growths should be removed round about the cotton fields.

* * * * * * *

SCHEME FOR INVESTIGATION OF BLACK-HEADED CRICKET IN SIND.

Summary of work done on Black-headed Cricket in places other than Sind.—The insect belongs to the family "Gryllidae." The pest is mostly known in the Kachhi and Sibi areas of Baluchistan under the name of "Tid" and it is frequently mentioned to have greatly damaged young crops of *Jowari*, Cotton, etc., in these areas. At *Usto* (8 miles from Khirthar), a Taluka in Nasirabad Sub-Division, District Sibi, this pest is reported to have attacked cotton crop considerably.

The crickets come mainly from the barren area on the Right Bank of Khirthar. The control measures adopted in British Baluchistan are given below:—

Trenches about 20 feet long, 2 feet wide and 2 feet deep are dug. These trenches are filled with water and kerosine sprinkled over the top. The swarms are directed to such trenches where they die. In front of the trenches and the bridge passages, baits are also scattered. Their composition is as under :—

(1) Wheat bran 20 seers.

(2) Sodidum Fluosilicate 1 seer.

(3) Treacle 2 seers.

Sufficient water should be added to make them like easily crumbling "Ladus." The crickets relish these baits very much. After eating they head for water (in trenches) sprinkled with kerosine, where they easily die.

This insect is reported as injurious to crops and has been found in some number in parts of the Punjab It is a surface burrowing species living in the fields and not making deep burrows (Reference page 104 of Indian Insect Life by H Maxwell Lefroy)

Possibility of any Indian University taking up this problem —So far as this Department is aware there is no Indian University which has the staff or facilities suitable to undertake work on the black headed cricket problem on the lines contemplated in the Scheme

Copy of letter No 330 *E*, *dated the* 16*th November* 1937, *from the Director of Agriculture, Sind, Karachi, to the Secretary, Indian Central Cotton Committee, Bombay*

With reference to your letter No 7550 dated the 23rd August 1937, I have the

finding out the status and habits of the black headed cricket as a pest have been made —

(*a*) The insect has not been properly identified with regard to the species and it is necessary to send representative collections from the affected parts at different times of the season whenever found to the Imperial Entomologist New Delhi, and also to the Director, Imperial Institute of Entomology, London

(*b*) *Habits* —In connection with control work it is necessary to [illegible] where this pest lives or hides during cold weather and whether it [illegible] possible to control its numbers in this stage

(*c*) *Egg Laying* —Particulars should be investigated into

(*d*) *Crop Rotation* —Cruciferous crops e g, rape seed etc [illegible] important alternative food plants should be eliminated out of [illegible]

(*e*) *Barriers* —As this pest only hops in its younger stages [illegible] suitable barriers around valuable crops may afford additional [illegible]

(*f*) *Influence of meteorological conditions* —This study can [illegible] if the Officer in Charge has thorough acquaintance with [illegible] ecological technique

Both these experts have suggested revision of the proposed [illegible] for the staff and the expenditure required R B Ramchan[illegible] vision of one more fieldman and a larger amount for contin[illegible] is doubtful if an Entomological Assistant of the grade propos[illegible] qualifications, especially knowledge of modern method[illegible] for undertaking such a problem He also suggests in[illegible] Rs 300 to Rs 1,000 I, therefore, submit revised est[illegible]

Budget Estimates as passed by the Com[illegible]

Pay of Officers	1938-	
	Rs	
(*a*) Entomological Assistant in charge of the scheme Rs 200-10-300	2,40[illegible]	
Leave Salary	[illegible]20	
(*b*) Two Field Assistants Rs 30-5-45	[illegible]	
Leave Salary		
Contingencies	[illegible]	
Travelling allowance	[illegible]	
Total	[illegible]	

I have now to request the Committee to consider the scheme for investigation into the black-headed cricket in Sind and to sanction it at a very early date. In this connection, I may point out that the Sind Cotton Committee, which met on the 21st October 1937 had resolved that the pest was threatening to wipe out cotton cultivation on the Right Bank of the river Indus, and that the Indian Central Cotton Committee be requested to sanction the scheme at its earliest convenience so that another season is not lost.

Copy of D. O. No. 1272, *dated the* 23*rd July* 1937, *from the Locust Research Entomologist (R. B. Ramchandra Rao), Karachi, to Rao Saheb K. I. Thadani, Director of Agriculture, Sind, Karachi.*

I thank you for your D. C. No. 330/37 received this morning (23rd July 1937) enclosing a copy of the scheme for the investigation of the "Black-headed Cricket."

I have to say that I have done very little work on this cricket. But in the course of the studies of the past records of Locusts in Baluchistan, one could see that this pest is well-known in the Kachhi and Sibi areas of Baluchistan, under the name of "Tid." It is frequently mentioned to have greatly damaged young crops of *Juari*, cotton, etc., in these areas.

I understand that a good deal of work has been done in the Nasirabad Taluq of Sibi district in Baluchistan during the last 2 or 3 years in regard to the control of this pest in cotton fields, reliance being placed mainly on poison-baits, which seem to have given excellent results.

I should suggest, therefore, that you might get into touch with Mr. Mustafa, Agricultural Officer, in Baluchistan on this subject.

Copy of letter No. R-33/37/1586, *dated the* 11*th September* 1937, *from R. B. Ramchandra Rao, Locust Research Entomologist, to the Imperial Council of Agricultural Research, Karachi, addressed to the Director of Agriculture, Sind.*

I have the honour to acknowledge receipt of your letter No. 330-E/1937, dated the 31st August 1937, enclosing a scheme of investigation in connection with the study and control of the black-headed cricket in Sind. I regret delay in replying due to my absence from Karachi on a tour in the Rajputana Desert areas.

I should think the scheme forwarded by you is, as far as I can judge, from the data available, quite sound, but I should like to make the following remarks :—

(1) *The Identity of the Black-headed Cricket.*—In October 1931, while I was stationed at Quetta, a few specimens of the cricket were sent to me by the Sibi authorities, purporting to be the "Tid" found injurious to cotton, etc., in Jhatpat. Some samples of these insects were sent to the Imperial Institute of Entomology, London, in 1932 and were then identified as "*Gryllodes sigillatus.*" Some other specimens of "Tid" recently collected by my Assistant Mr. Desraj Bhatia in the Sibi area were also sent to the Imperial Institute of Entomology, London, in July last. These were returned identified as "*Gryllulus domesticus*"—the common house-cricket, with the remark that this species, according to Dr. Uvarov, is known to "live in the fields in warm countries in summer and only goes into houses in cold weather."

I should suggest that a good series of specimens, whether pinned or in spirit, be sent to the Director, Imperial Institute of Entomology, London, for determination so that the identity of the species concerned may be authentically confirmed.

(2) *Habits of the Cricket.*—It is seen that the cricket is active only during the hotter months. It would be of great value in regard to control work to find out where it lives or hides during the cold months and whether it would be possible to control its numbers in this stage.

(3) *Egg Laying.*—Particulars of egg-laying should also be studied first, so as to find out where the eggs are laid and when, and whether there is any diapause in the egg-stage in the winter months.

(4) I should also venture to suggest that provision should be made for one more Fieldman, at least for part of the year.

Copy of letter No 983 dated the 6th October 1937, from Dr Puruthi Imperial Entomologist Imperial Agricultural Research Institute New Delhi, addressed to the Director of Agriculture Sind

With reference to your letter No 330 E of 1937, dated 31st August 1937, I have the honour to state that this department received several reports of attack by a Gryllid to cotton *jowari* etc in Sind Western Punjab etc about 30 years ago The species concerned was *Gryllus Viator Kirby* (*Gryllades melanocephalus* (Serv) Again in 1933 a report was received from Sind of Tids damaging cotton seedlings and the specimens of pest sent to us were *G configaratus* and *G linceps* For the last two years as you are aware some Tids (not yet specifically identified)

tan The
ion of the
collection
ill be able
to help you in the identification of the specimens collected

Your observations as well as those made in Baluchistan indicate that rape and other cruciferae plants are important alternate food plants of the pest in the spring I note that you have included in the programme of work burning of waste materials and residue of *rabi* crops before cotton is sown If any *rabi* crop is a favourite food plant of the pest the burning of its residue will not help matters very much as the pest will have already increased in numbers before its harvest Such a crop will have to be eliminated out of crop rotation if cotton is to be saved

A similar pest (*Gryllus assimilis*) attacks cotton in Lousiana California etc In South and North Dakota wheat barley etc are also attacked It has been thoroughly investigated in recent years (see *Jl Econ Ent* Vol XIX XXIV & XXVII) Elimination of alternate food plants clean cultivation and use of poisonous baits containing sodium fluosilicate have proved very useful control measures Recently in Baluchistan also sodium fluosilicate baits have proved effective

As the pest does not fly but only hops in its younger stages therefore erection of suitable barriers around valuable crops should also afford additional protection

The study of the influence of meteorological conditions on the incidence of the pest requires thorough acquaintance with modern methods of ecological technique I am therefore very doubtful if an entomological assistant of the grade proposed by you will have adequate qualifications for undertaking such a problem I would suggest that the Assistant Entomologist proposed to be recruited by you should himself do the work instead of supervising it one or two assistants may help him in his field and laboratory work

The grant proposed under contingencies seem to be very inadequate especially if an ecological study of the pest is to be undertaken Some expensive apparatus rearing cages etc will have to be purchased This grant in my opinion should not be less than Rs 1 000 per annum

I shall be glad to furnish any further information if called for and shall be glad if you let me have a copy of the revised scheme when submitted

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Copy of letter No 91/63 1218 dated the 17th November 1937 from the Director of Agriculture Punjab to the Secretary Indian Central Cotton Committee, Bombay

A scheme for research on the improvement of Punjab American 289F cotton

With reference to the correspondence ending with your letter No 7600 dated the 25th August 1937, I have the honour to forward herewith a fresh scheme in substitution of the one which was rejected on technical grounds by the Indian Central Cotton Committee at their meeting held in August 1937

2 As has been explained in the scheme the proposals now formulated are not only to maintain the purity of the existing strain of 289F/K25 which is valuable because of its high ginning qualities but to evolve from it and its parent 289F an improved strain which retains its good features but does not possess its drawback in respect of jassid susceptibility

As Lyallpur is not a suitable centre for work on 289F cotton the British Cotton Growing Association has offered to give full facilities (land labour, implements etc) for the establishment of a sub station on their estate at Khanewal The staff for the scheme will work under the Cotton Research Botanist

3. The total cost of the scheme spread over a period of 5 years is estimated at Rs. 14,000 round, *vide* details embodied in the scheme, and it is requested that this sum be provided. The Punjab Provincial Cotton Committee considered the scheme in its meeting held on 30th October 1937 and unanimously recommended it to the Indian Central Cotton Committee for acceptance and provision of funds.

A Scheme for Research on the Improvement of Punab American 289F Cotton.

Introductory.—Punjab American 289F cotton was evolved in the Botanical Section of the Punjab Department of Agriculture and was tried on a large scale for the first time in 1921 at the British Cotton Growing Association Farm, Khanewal. There it proved an unqualified success and since then it has been grown on a very large area in parts of the Lower Bari Doab Colony, From there it spread to Sind where a selection of this cotton, Sind *Sudhar*, is being grown very extensively.

289F is peculiarly suited to the tract known as the Lower Bari Doab Colony, and efforts to introduce it in other Canal Colonies have failed invariably. Outside its special habitat this cotton fails to give a profitable yield.

For want of proper facilities the Punjab Department of Agriculture have not been able to pay as much attention to this cotton as its importance deserved. Under the Punjab Botanical Research Scheme, a policy of roguing about 200 acres of this cotton at the Convillepur Farm, Montgomery, was pursued for some years. A certain degree of purity was imparted to the crop, but no sustained work on its improvement has been undertaken so far.

The British Cotton Growing Association, Punjab (Limited), made certain selections from this cotton some years ago. Their efforts were successful in improving the ginning percentage. The ginning outturn of their selection is about 35 per cent. as compared to about 29 per cent. for the ordinary 289F. There is, however, one serious drawback in this new selection. It is definitely susceptible to jassids. In spite of this defect this new strain has found favour and its cultivation has extended every year; the chief reason for this extension being the premium obtained because of the high ginning outturn.

289F and its sub-strains have never undergone any selection from the time they assumed importance as commercial cottons, nor have any special precautions ever been taken to keep them pure either in the field or in the ginnery. An examination of these cottons, therefore, reveals a fair amount of impurity.

289F is very well known to the trade in India and abroad and the area under this cotton and its sub-strain is about 100,000 acres each year. It, therefore, appears necessary that early steps should be taken to preserve the purity of the cotton and try to evolve new jassid resistant strains from it. This work, however, will have to be done at Khanewal as Lyallpur does not suit this cotton.

Work will be started on the following lines:—

(i) *Roguing Work.*—One hundred to two hundred acres will be rogued every year to improve the purity of the existing strain. The produce from this area will be ginned under expert supervision and the seed sown in a separate block of the British Cotton Growing Association Farm. In succeeding years this operation will be repeated and if the work is carried out carefully, three years should suffice to render the crop reasonably pure.

(ii) *Single Plant Selection.*—In the first year, a large number of plants which appear to be better than others will be selected and the produce of each plant picked in single bags. This produce will be examined for lint and seed characters and the seed of the most desirable plants will be retained for sowing.

The single plant progeny rows will be examined in detail in the field and selections made again. At this stage it will be necessary to self-fertilise the flowers. The produce of these plants will again be examined in the laboratory and further selections made. This process will be repeated for at least 3 or 4 years by which time it is expected that progeny rows of sufficient merit will be isolated. Another year or two will have to be devoted to field tests. Thus in all not less than 5 years' work is required to get a pure strain or a somewhat improved strain.

In order to save one year and to provide material for work at the commencement of the scheme in the summer of 1938, preliminary work has been done by the present staff of the Punjab Botanical Research Scheme 104 acres have been thoroughly rogued This area will provide at least 600 maunds of seed which will be sufficient to sow the entire area at the British Cotton Growing Association Farm Khanewal, in 1938 A large number of single plant selections has also been made

289F is very sparsely hairy and in order to introduce hairiness it has been crossed with 43F Back crossing with 289F next year will give good material for selection for high ginning outturn

The British Cotton Growing Association will provide land labour implements and it is requested that the Indian Central Cotton Committee may provide funds for meeting the pay of the staff their travelling allowance and other contingencies The expenditure involved is shown in the subjoined table —

	1938 39	1939 40	1940 41	1941 42	1942 43.
	Rs	Rs	Rs	Rs	Rs
One Agricultural Assistant at Rs 80-7-150/7-185-8-225 with about 3 years service whose pay will be Rs 101 on 1st April 1938 and the date of his next increment will be 10th August 1938	1 158	1 343	1 427	1,511	1,595
Two Plant Observers at Rs 20 1-30	440	502	526	550	574
Travelling Allowance	100	100	100	100	100
Contingencies	550	500	500	500	500
Casual labour for selfing operations and picking single plants etc etc	250	250	250	250	250
	2 498	2 695	2 803	2 911	3 019

GRAND TOTAL Rs 13 926

PROGRAMME OF WORK

The main lines of the programme of work have already been indicated above It will consist of —

(i) Roguing about 100 acres each year

(ii) Single Plant Selection

(iii) One cross between the new selection (K T 25) and 43F will be studied

Scheme of Interspecific Hybridization in Cottons at Surat

India, Vol XXII, in, American and Asiatic because the maximum w that of Egyptian and and attempts have been in this direction

ducing forms with increased chromosome numbers

secured such good results in other crops, *e.g.*, in Wheat x Rye, Nicotiana hybrids, etc. Thus it has been shown, by these results that there is a possibility of transferring a gene, or genes, or part of chromosomes from one group to the other, and also getting fully fertile forms capable of crossing with both the groups.

India is growing mostly Asiatic types of cottons, which are known for their lower spinning values, as compared to American cottons. With the advent of the East India Company, interested in the cultivation of superior types of cottons, attempts were made to grow foreign types of better quality, but all the attempts in various parts of the country failed, except the remnants of that work we see in Punjab-American, Dharwar-American, and Cambodia cottons now grown in Punjab, Dharwar and Madras, respectively. The foreign types could not be acclimatised due to lack of certain characters such as particular type of hairiness and particular root system found in hardy Asiatic cottons, which help in tiding over certain seasonal conditions and insect attacks and naturally for combining these characters hybridisation between these two groups is suggested. Attempts have been made in the past but with little success, Desai and Patel reported one successful hybrid each, which later on died by accidents. Since then four hybrids have been secured at Broach, and two backcrossed progeny plants are also grown there. It is only at Surat that a larger success has been obtained and some progress could be achieved.

2. *Importance of the Hybridisation Work for Gujarat.*—In India, the Surat cotton, *viz.*, 1027 A.L.F., has the highest water mark quality, particularly as to the length and feel of lint combined with the high ginning of lint from 34 to 39 per cent. There is no other Asiatic type known with the above economical characters. The highest spinning value yet attained in any of the types of Indian cottons is 40's, and we have strains spinning to this limit. From the general experience it is believed that the highest spinning value of Asiatic cottons can only be increased if certain fibre characters of the exotics can be combined into Asiatic cottons. This is particularly the case as direct acclimatisation has failed as already stated above. This can only be done if the "unbridgeable gulf" between these two groups could be bridged, *i.e.*, if the fully self-fertile plant from such a hybrid be obtained or a plant be obtained which can be easily crossed with any Asiatic cotton, resulting in the combination of any economic character including the agronomic characters required here. Besides the combining of certain desirable fibre characters of the exotics with our cottons, these exotics have certain characters such as Indian Fusarium wilt immunity, and Indian cotton Stenosis immunity and a short vegetative growth period which are of immense importance to Indian cottons. In short, ONE CAN SAY IN NON-TECHNICAL LANGUAGE THAT THE INDIAN COTTONS AND PARTICULARLY THE SURAT COTTONS ARE LIKELY TO BE ENRICHED IMMENSELY IF THE CHROMOSOMES CAN BE DOUBLED OR INCREASED RESULTING IN THE INCREASE OF EVERY PART OF THE PLANT SUCH AS SIZE OF BOLL, SIZE OF SEED, LENGTH OF FIBRE, FINENESS OF FIBRE, COMBINED WITH STRENGTH, *i.e.*, THE CHARACTERS FOUND GENERALLY IN DOUBLE CHROMOSOMES EXOTICS.

What has been above stated definitely indicates that the main hope and item of work of revolutionising the Indian cotton growing industry and particularly the Surat one, lies in hybridisation and creation of a self-fertile plant having desirable combination of characters or in the building up of a plant which can be in the beginning easily crossed with the Asiatic cottons and thus finally evolving by breeding the desired type.

3. *The building up of such a plant would be also useful for the tracts in which the American cottons are grown at present.*—In these tracts, these exotics at least in some seasons are somewhat risky (*e.g.*, Punjab-American cottons) which defect can also be remedied by having the combination of good characters of both. From the foreign work it seems likely that such a work of international importance would take a long period.

4. *Work at Surat.*—The work was started in 1932, and Dr. Burns, the then Director of Agriculture, expressed his desire to have a fertile hybrid between the Indian and American types as early as possible, so as to get beyond the comparative narrow limits set up by selection and crossing within either group and it was taken up more enthusiastically.

First two years' work did not give any successful hybrids but from the large amount of crossing work undertaken in 1934-35 and 1935-36 20 hybrids (10 from each season) between these two groups have been secured.

5 *Inducing Fertility Experiments*

(a) By physical means —

Attempts such as callus formation by physical injury to branches and main stem of the hybrids were made without any success

(b) By backcrossing —

pollens of the American parents, i e, the parent with higher number of chromosomes on the hybrids

In 1935 36, 3 bolls each with one seed were obtained from 2 hybrids but *the seeds failed to germinate Out of these 3 bolls 2 were from the hybrid* No 2 4 referred to below, giving 0 16 per cent success

In 1936 37, 38 bolls were obtained from 9 hybrids with 41 seeds (3 bolls giving 2 seeds each) out of which 20 seeds have germinated

Hybrid No 2 4 specially has shown good fertility by giving 24 bolls with 27 seeds and has shown an increase in fertility to 0 40 per cent

tendency of increase in it from year to year in ratoons, and more so due to sterility *This has to be followed up throughout the flowering season viz, from October to March, for nearly six months*

It is also essential that no sort of insect attack should come in the way of having or increasing the fertility, thus measures for preventing and controlling the insect attack of sucking insects or boll worms have to be devised and rigorously adopted

(c) Over and above these methods chemical treatments *also require to be* tested and tried

6 *Insufficiency of the present hybrids and necessity of further hybridization.*—It is conceived that if there be a large number of interspecific hybrids between various parents having different genetic constitution, one may catch a plant with better fertility as is found in hybrid No 2 4 and with this end in view one has to try to get as many hybrids as possible between various types

The present stock of hybrids are from the Punjab and Dharwar American types

ing season. This work alone takes nearly half the day in the whole flowering season. After getting these crossed bolls or backcrossed bolls from hybrids, seeds have to be raised in pots for about 2 months and very carefully planted in the field in the monsoon.

7 *Present Portion of the Staff in the Work.*—Till now a Graduate Assistant is handling this work over and above the other breeding work with the help of an insect setter kindly spared by the *Deputy Director of Agriculture, Gujarat, Surat,* for the work.

This year due to the successful raising of 19 backcross progeny plants which will have to be maintained along with the hybrids as ratoons and as is now expected that fertility will increase year by year, the work would be expanding and to intensify and extend it as outlined, a whole time Assistant with the help of the counters is essential for the work.

Such a work is in progress in Russia and here is the first opportunity to take it up in India.

It has been amply shown above that the work shows great potentiality which will not only benefit the small tract of Surat but other tracts also.

The work requires a small staff and the genetic and cytological part of the work apart from economic results is sure to give most important results of academic importance.

Thus it is proper that such a small scheme of fundamental importance should be subsidised by an all-India body like the Indian Central Cotton Committee.

The scheme is put up for five years beginning from 1st April 1938. The actual details of expense are given in the budget estimate.

Budget estimate of expenditure for a period of five years from 1st April 1938.
(Chargeable to the Indian Central Cotton Committee.)

S. No.	Name of the Budget Head.	Grade of pay.	Pay on 1-4-38.	1st 1938-39.	2nd 1939-40.	3rd 1940-41.	4th 1941-42.	5th 1942-43.	Total.	Remarks.
1	*Pay of Establishment—*									
	1. Agricultural Overseer	110-8-150	126	1,512	1,608	1,704	1,800	1,800	8,424	a
	2. Counter	20-1-30	20	240	252	264	276	288	1,320	
	Total..	..	..	1,752	1,860	1,968	2,076	2,088	9,744	
2	*Leave salary—*									
	1. Agricultural Overseer.	..	..	..	..	..	..	..	..	b
	2. Counter	..	..	20	20	20	20	20	100	
	Total..	..	..	20	20	20	20	20	100	
3	*Committee's Provident Fund*	..	..	20	21	22	23	24	110	
4	*Allowances & Honoraria—* Travelling Allowance.	..	..	200	200	200	200	200	1,000	
5	*Contingencies—* Cultivation & Labour Charges	..	..	340	340	460	460	460	2,060	c
	Office Expenses & Miscellaneous	..	..	200	250	300	350	400	1,500	d
	Total..	..	..	540	590	760	810	860	3,560	
	Grand Total..	..	..	2,532	2,691	2,970	3,129	3,192	14,514	
	Non-Recurring Grant— For one Glass-House	..	..	..	..	..	..	..	500	
	Less item 4 disallowed by the Committee ..								15,014 1,000	
									14,014	

Remarks—(*a*) It is proposed to depute Mr. K. C. Amin, who is in charge of the work since the beginning, assuming that he will be confirmed before the scheme begins. His pay in the old 3rd Grade will be Rs. 120, on 1-4-38 (beginning from 28-9-37) and hence the starting pay in the scheme is put at Rs. 126, in the new 2nd Grade scale.

(*b*) The Agricultural Overseer will be deputed from the Department.

(*c*) It is proposed to engage two temporary counters for the first two years and three counters for the next three for six months for helping in crossing work, and will include wages of other labourers.

(*d*) Chemicals, Insecticides, Manures, Stationery Postage, etc., Sundry expenses will be met within this grant.

8 *Aim of Work* —To get a fully fertile hybrid between exotics and Indian cottons *i e*, between the two groups, combining various characters of both particularly the good staple length of the exotics and the factors of hardiness and suitability to Indian climate of the Asiatic

Plan of Work —The work will be continued on the existing hybrids to begin with as outlined in 5 above) and the best types of Egyptian, Sea Island and American cottons will be grown at Surat with a view to produce as many hybrids as possible with them using Asiatic cottons particularly Surat herbaceum as one parent

This will give a varied combination of various types and superior material for work and a potential centre of creation of new forms

PROGRAMME OF WORK

Field Work

(1) Maintenance of the present 20 hybrids with their 20 cuttings and their progeny for further work

(2) [illegible]
with t [illegible]
object [illegible]
far as [illegible]
stock [illegible]

(3) Raising of plants in pots under protected conditions and transplanting in the field

(4) Vegetative propagation of the hybrids and their progeny for extensive work and for guarding against accidents to the original plants maintained as ratoons

(5) Inducing fertility in the sterile hybrids and their sterile or semi sterile progeny of various generations —

(A) By artificial hybridization

Backcrossing with the parents on a very extensive scale particularly with higher number chromosome parent and with such other types of different cottons likely to lead to fertility (*e g*, Foreign wild cottons)

(B) By Physical and Chemical methods known to induce fertility

(a) Callus formation

(b) Physical injury to plants by cutting ringing etc

(c) Treatment with anaesthetics like choloroform to grow[illegible] bu[illegible]

(d) X raying of buds and flowers

(e) Cutting up the style and pollination afterwards

(f) Bud pollination etc

(6) Study of the fertility of the progeny of the hybrids fr[illegible] generation and when several years old as ratoons

(7) Genetical study —

Study of inheritance of various characters in the [illegible]

LABORATORY WORK

This will be taken up after certain seasons and if th[illegible]

Work will be mainly cytological

(1) *Study of chromosomes* —Number of chro[illegible] study of meiotic division chiasma format[illegible] between the chromosomes of the two grou[illegible] patibility

(2) *Study of sterility* —This will [illegible] causing hindrance in getting fertility [illegible] may come up in the trials of various [illegible]

Problems may be—

(1) Viability of pollens, shape, size, germination, tube growth, etc., under different conditions.

(2) Study of ovules.

(3) Other problems that might arise out of the trials of various methods for inducing fertility.

It is proposed that cytological work will be under the Economic Botanist to Government of Bombay, in whose laboratory at Poona the work will be carried out by the Assistant in spare time after getting himself trained.

(Sd.) MAGANLAL L. PATEL,
Cotton Breeder, South Gujarat, Surat.

Copy of letter No. 1-187, *dated the* 11*th January* 1938, *from the Commissioner of Agriculture, Baroda State, Baroda, to the Secretary, Indian Central Cotton Committee, Bombay.*

Proposal for the better marketing of 1027 A.L.F. cotton of the State by the Government of Baroda.

I have the honour to submit herewith a proposal by the Government of Baroda on the matter of the establishment of a marketing centre at Surat to deal with 1027 A.L.F. cotton produced by groups and co-operative sale societies in the State. The general working of the scheme will be closely analogous to that holding on the Verum marketing scheme in the C. P. Outside the actual marketing office as asked for the State will be responsible for the organisation required at the different pooling centres. They will also make arrangements for the necessary funds to meet advances to the cultivators against the *kapas* deposited by them at such pooling centres.

Proposals submitted to the Indian Central Cotton Committee for the better marketing of 1027 *A.L.F. cotton of the State by the Government of Baroda.*

There is but little doubt that though 1027 A. L. F. is admittedly the best cotton grown in the area south of the Nerbudda, it suffers in comparison with the so-called 1A, now but a mixture of Surti cottons with some predominance of the variety once known as 1A, in yield, ginning percentage and its reaction to frost. Further when sold as *kapas* it rarely if ever secures any premium over other cottons on the score of its better lint and spinning qualities. It is only when this cotton is ginned and sold in the bale that the grower secures at least some premium, even though this on the figures of the Indian Central Cotton Committee, is less than it should have, if it is to march on level terms or better terms than at least a pure strain of 1A.

The value of the cultivation of 1027 A.L.F. in this tract rests solely, it is believed, on the fact that its existence as a pure cotton and its percentage of admixture in Surti maintains the general price level of Surat and Baroda cottons as a whole relative to 'Broach.'

The grower of 1027 A.L.F. is in short bearing the burden of maintaining price levels and the reputation of the tract without adequate recompense and indeed, a seller of *kapas* is at a loss in comparison with the grower of 1A. benefiting both by a better yield of lint and the price level. In short he operates so that less patriotic growers may get a satisfactory price for a cotton of a lower grade.

If 1027 A.L.F. were withdrawn to-morrow, it is more than probable that the general value of Surti cottons for the most part cotton of poorer type should fall in price by perhaps Rs. 20 to Rs. 25 a khandi. Thus the only change the 1027 A.L.F. grower derives is that if he gave the cotton up, the cotton he grows would fetch less than it now does by this price, though this might well be neutralised per acre by the *increased yield.* The only other advantage in 1027 A.L.F. is that in a year like this one with prices down and cotton excess of demand this cotton will sell, whereas considerable amounts of the poorer growths may not.

The Government of Baroda feels that it would in the long run be detrimental to the cotton of the tract if 1027 A.L.F. did not continue to be grown in even larger amounts than is now the case. They however, realise that the few who grow the cotton or are induced to bear the burden of lesser yield and lower ginning cannot always be kept satisfied on specious promises such as have from time to time appeared on the I. C. C. C. record indicating that an alternative or more appreciative market than Ahmedabad would arise.

They are of the opinion that the I C C C, whatever the correctness of a long term view of the position, must take active steps to verify the existence of the new market It is, they feel, impossible to utilise all departmental machinery in the advancement and maintenance of 1027 purely because it keeps up the general reputation of the tract for others

It is clear that Ahmedabad is never going to provide a market willing to give 1027 A L F its due price In so far as the major use of cottons is concerned at Ahmedabad, ordinary Surti, 1A and the like provide all the staple required

market, unless the I C C C steps in, purchases pure 1027 A L F substantially at a fair premium and puts it on the Liverpool market in sufficient bulk as to see whether or not this long promised market really exists

They are of the opinion that unless this alternative market is not a chimera

The Government of Baroda, however realise that in part the inadequate price now got can be improved on even if not to the height it should, at any rate to a level which may still make it worth the while of the State to concentrate on 1027 A L F with a view to preventing a general fall in price of all cotton south of the Nerbudda by a greater movement towards the sale of this cotton co-operatively in bales and not individually as loose *kapas* Further that a movement in the direction, assuming the I C C C step in the reaction of the Liveropol market and that this responds, would enable the provision of this genuine certified 1027 A L F in that market's hands in sufficient quantity

To assist this organisation of the growers into societies concentrating on 1027 A L F, work which will be undertaken by the State, they are of the opinion that a definite marketing organisation handling 1027 A L F of the State [illegible] the way in which Verum cotton is dealt with in the Central Provinces [illegible] if there is to be any hope of maintaining 1027 A L F

The Government of Baroda, reacting on the expressed opinion [illegible]

They feel further that, outside the societies [illegible]

If 1027 is to be increased it is essential —

(a) for the grower to sell through a pool

(b) for a selling organisation to [illegible]

Last season it was noticed that 1027 [illegible] part of the season in securing a premium [illegible] too late in the season to be [illegible] Marketing Office at Surat. It was [illegible]

materially helped. 1027 A.L.F. in bale lots of 25 bales and over was sold out at from Rs. 12 to Rs. 18 premium over Surti at that date of sale. It is thus felt that some organisation of that kind as operating for Verum cotton in the Central Provinces is desirable so as to market effectively the products of the several grades as are now being created by groups and societies who have been induced to stand by 1027.

In taking up the scheme for 1027 A.L.F. cotton marketing in the Baroda State, it will be desirable to have an office at Surat for at least three years.

Under the scheme pooling centres would be formed at different ginning and pressing factories and the process of marketing lots according to grade and the cotton area will be supervised by the Agricultural Department, who can then issue necessary certificates of quality of the cotton brought to the pool. The supervising staff will keep the Marketing Officer at Surat in touch with the stock so as to enable him to dispose of the same at the best prices that can be secured.

The necessary establishment and expenses of an office at Surat will be as follows :—

1. The services of the Marketing Officer should be subscribed for this purpose for about 5-6 months and as in the Central Provinces he should be granted an allowance of Rs. 100 per month.
2. One Accounts Clerk and two typists and two peons and one faras should be allowed to him to conduct the office.
3. Among other expenses, rent, telephone, telegram, printing and contingency with a non-recurring expense of furniture should be provided.

The estimated cost per year on the above lines will be as follows :—

Item.	For month.	Full six months' period.	As sanctioned by the Committee.
	Rs.	Rs.	Rs.
Allowance of Marketing Officer	100	600	300
1 Accountant	50	300	300
2 Typists Clerk	40 (each).	480	480
2 Peons	15 (each).	180	90
1 Faras	12	72	72
Rent and Rates	50	300	..
Telephone, telegram, postage and contingency	..	600	600
Printing	..	300	300
Travelling allowance	..	300	300
Non-recurring furniture	..	300	..
	Total ..	3,432	2,442
	For three years ..	10,296	7,326
	Or roughly	10,000	

The above expenses have been calculated for a full term of six months and may vary according to season and period during which the necessity of the office is desired.

The Government of Baroda, while still emphasising the need for drastic steps, by the Indian Central Cotton Committee in the effective establishment of an overseas demand or at least of a verification of its existence as by steps indicated earlier, believe that much can be done to support 1027 A.L.F. and with at the general price levels of the cotton of the tract as a whole by the greater organisation of the grower of this cotton into pools, selling lint through the medium of an organisation of this kind and they thus request the Indian Central Cotton Committee to further this by financing the proposal made above.

(Sd.) R. G. ALLAN,

Commissioner of Agriculture, Baroda State.

United Provinces Botanical Scheme.

INTRODUCTION.

The United Provinces cotton crop which has decreased in area from an average of abo t 91 lakhs acres n th

Wh le the ge

itors the

As a preliminary to the re establishment of
in these areas combining higher spinning qua
Indian Central Cotton Committee financed a
Rohilkhand cotton crops, while in the past
made departmentally from the Madhoganj tra

have also to be explored ... cottons for areas under Pink Bollworm control

The work of the next f
purification a

The material available consists of —

(a) Selections from nearly 23 000 single plant collections made in the survey of Bundelkhand and Rohilkhand cottons, 1933 34, 1934 35, 1935 36

(b) About 2 000 single plant selections from field survey of Bundelkhand tract

(c) Pure strains selected from C 402 and C 520

(d) "Perso American" an acclimatised American type from Dr Leake's collections

(e) Introductions from Punjab, Sind, Central Provinces and Indore

There is every reason to believe that the cotton growing industry indigenous to the

For convenience of consideration the scheme outlined below has been drawn up in two parts For the first, which deals mainly with the cotton survey material, a grant of Rs 78,115 spread over five years is requested, and Rs 13 265 for part II, which contemplates extensive farm and cultivators' field trials of improved types, local and introduced

U. P. Cotton Botanical Scheme :—

	Recurring.	Non recurring.	Total.
Part I	73,515	4,600	78,115
Part II	13,265	..	13,265
Total	86,780	4,600	91,380

Scheme of Work.

Part I.

A. *Survey material :—*

(*a*) Detailed examination, purification, and replicated trials of selected strains suitable for direct issue.

(*b*) Examination of suitability as parents for hybridising for longer staple.

As a result of cotton survey of the Bundelkhand and submontane tracts of the United Provinces financed by the Indian Central Cotton Committee for four years commencing July 1933, a large number of selections have been made from Rohilkhand and Bundelkhand divisions. From a total of 22,915 single plant collections of 1933 and 1934, fifty of the most promising selections have been tested for the second year in single row replicated progeny trials; while from 1935 material selections will be made for second replicated trials, and 275 single plants from the 1936 collections of nearly six thousand have been chosen for further studies. The preliminary results so far obtained show great promise in the material and warrant very full and detailed further study.

A detailed programme of work for the next five years is submitted (Enclosure I.)

B. *Improvement of C 402 and C 520 :—*

Twenty pure strains of C 402 and ten of C 520 will be worked up at the four proposed cotton research centres, Cawnpore, Raya, Atarra and Nagina.

Part II.

C. *Trials of short and medium staple types against local in Pink Bollworm controlled areas and other cotton tracts of the Province :—*

For assessing the value of the established strains replicated variety trials will be laid out extensively both on the Government farms and on cultivators' fields in various cotton tracts under irrigated and unirrigated conditions as per programme attached (Enclosure I). These will disclose the relative efficiency of a number of short and medium staple strains of Northern and Central India as against the improved United Provinces types with respective local strains as controls.

D. *Trials of longer staple varieties in Pink Bollworm controlled area : and in other cotton tracts (suitably measured by growth behaviour) in anticipation of Pink Bollworm control extension :—*

The performance of suitable Punjab and Sind American varieties will be tested by replicated trials on Government farms under irrigated conditions as per appended programme (Enclosure I). A comparison of plant growth observations recorded in Pink Bollworm controlled and uncontrolled areas will indicate the suitability or otherwise of staple cottons for immediate introduction upon the extension of Pink Bollworm control.

E. *Selection from improved types from other Provinces :—*

Promising types will be tested in replicated lay-outs at Cawnpore, Raya, Nagina and Atarra, representing the Lower and Upper Doab, Bundelkhand and Rohilkhand tracts.

Facilities and additional requirements.

Cotton research is at present located at Cawnpore and Raya. Half of the Cawnpore Research Farm and all the Raya Cotton Farm, are at the disposal of the Economic Botanist for Cotton and Rabi Cereals, who, with his technical staff of three graduate Assistants conducts research upon cotton, wheat and barley.

Complete examination of the survey material, extensive trials of the improved varieties against respective local controls under varying conditions and the performance of American varieties will supply information which is essential to the proper planning of future development programme.

The programme outlined will however require additional facilities of land in Bundelkhand and Rohilkhand for sub stations along with staff for headquarters for Raya Farm and for the sub stations which will be accommodated at Atarra and Nagina Farms where it is proposed to set aside ten acres of the farms for cotton research

—

To carry out the work effectively additional staff and contingent provision are required as summarised below It is hoped that the Indian Central Cotton Committee will see its way to providing this Details of budget estimate are given in Enclosure II

Staff — *Recurring*	Rs	
1 Senior Botanical Assistant Cawnpore	150—10—250	
1 Raya	150—10—250	
1 Technological Assistant Cawnpore	160—10—250	
1 Statistical Assistant Cawnpore	110—5—150	
1 Laboratory Assistant Cawnpore	30—1/2—35	
4 Kamdars (literate) for Cawnpore (2) for District work (2)	20—½—23—1—30	
2 Field attendants for Nagina (1) for Atarra (1)	12—½—15	
1 Laboratory attendant for Raya	12—½—15	
Travelling Allowances —		
Economic Botanist (Cotton) Additional	1 000	
Assistants	750	
		1 750
Contingencies —		
Cost of Field experiments	2,000	
Research Farm (Additional) expenditure Cawnpore Nagina and Atarra	1 500	
Chemicals and apparatus	350	
Miscellaneous office contingencies	600	
		4 450
Non recurring		
Equipment (additional) furnishing Cawnpore	2 500	
Raya	500	
Nagina	700	
Atarra	900	
		4 600

Relative expenditure by United Provinces Government and the Indian Central Cotton Committee

The estimated cost for five years of the provision requested as a grant is Rs 78 115 for Part I and Rs 13 265 additional for Part II of the scheme a total of Rs 91 380

The net expenditure of the United Provinces Government on the Cotton Botany Section during the same period will amount approximately to Rs 93 500 This is derived as follows —

Recurring	Rs
Half the annual c [illegible] Cotton and Rabi Cereals (E [illegible] a who will be relieved of [illegible] tenance of Raya Cotton Farm and quarter cost of Cawnpore Research Farm aproximately Rs 17 100×5	85 500
Botanical Assistants Nagina and Atarra 2 400×5	12 000
	97 500
Less saleable cotton approximately 60 acres per annum 1 800×5	9 000
Total Recurring	88 500
Non recurring	
Construction and adaptation of buildings for laboratories	5 000
Grand Total	93 500

The United Provinces Government is thus making a very considerable contribution to cotton botany. Admittedly much of the expenditure is not new. The additional provision for cotton work, including half the time of the botanical assistants at Nagina and Atarra previously directed to *rabi* cereals, amounts to Rs. 16,000 of the recurring total, and Rs. 5,000 non-recurring. The United Provinces Government is not at present able to supplement its provision for botanical improvement of the cotton crop, and in view of the need to raise the standards of outturn and spinning value, and of the fact that the Province has maintained a cotton research section unaided for many years, it trusts that the grant applied for will be fully approved.

Enclosure I.

Detailed technical programme of work for the next five years.

The major portion of this programme follows that drafted by Mr. J. B. Hutchinson in consultation with the Director of Agriculture, United Provinces, and Economic Botanist (Cotton), after examining the material in hand reviewing both the previous researches and the cotton position in the Province.

Part I.

A. *Purification and detailed examination of the Bundelkhand, Rohilkhand and Madhoganj survey material :—*

(a) for evolving improved strains for all suitable *barani* and irrigated cotton areas, particularly for Bundelkhand and Chandausi-Kashipur tracts. Detailed programme as tabulated ;

(b) as parents in hybridizing for obtaining suitable types of longer staple. Programme will be submitted when survey material is fully studied.

B. *Further improvement in C 402 and C 520 cottons :—*

Programme of work as tabulated.

Part II.

C. *Yield trials of improved strains :*—short and medium staple :—

Extensive trials of improved strains (C 402 and C 520) against local and other standard varieties available in Northern and Central India. Such trials to be conducted in Pink Bollworm controlled and other cotton tracts of the Provinces both on Government farms and on cultivators' fields under irrigated and unirrigated conditions.

(i) *Government farms :—*

(a) *Barani* :—Verum, Malvi 9, C 520, C 402, local (Control). Trials to be arranged in six randomised blocks with 1/50th acre plots and to be distributed on farms throughout the *barani* cotton growing areas of the Province. Each plot to be further divided into two sub-plots for introducing the spacing factor.

Places :—Etawah Farm;
Bichpuri Farm.
Aligarh College Farm.
Kalyanpur Farm.
Kalai Farm.
Hardoi Farm
Raya Farm.
Bulandshahr Farm.
Meerut Farm.
Mainpuri Farm.

(b) *Irrigated* :—Verum, Malvi 9, C 520, C 402, Perso-American, local (Control).

Trials to be arranged as above and distributed on farms throughout the irrigated cotton growing areas of the Province.

Places :—Etawah Farm.
Bichpuri Farm.
Aligarh College Farm.
Kalyanpur Farm.
Kalai Farm.
Hardoi Farm.
Raya Farm.
Bulandshahr Farm.
Meerut Farm.
Mainpuri Farm.

(ii) *Cultivators' Fields* —

In order to determine the value of the existing United Provinces strains under cultivators conditions three sets of "scattered block" experiments will be conducted.

(a) Pink Bollworm controlled areas, *karani*, C-520 and local (control)

To be distributed as widely as possible wherever C-520 has been or may be advocated.

Districts	
—Cawnpore Hardoi. Buland-shahr Aligarh. Muttra. Mainpuri. Saharanpur Meerut. Agra.	In each district villages to be selected, two cultivators in each village to sow the two varieties separately

(b) *Pink Bollworm uncontrolled area, irrigated*, C-520, C-402 and local (control)

To be distributed widely wherever C-520 or C-402 has been or may be advocated.

Districts	
—Aligarh. Meerut. Buland-shahr Mainpuri. Etawah. Agra. Saharanpur Cawnpore. Hardoi.	In each district villages to be selected, cultivators in each village to sow the three varieties separately

(c) *Pink Bollworm controlled areas* C [illegible], C-402, Perso-American and local (control).

To be [illegible] in [illegible] villages in [illegible] areas

Places			
—[illegible]	2 villages	canal irrigated	Cultivators in each village to sow four varieties separately
[illegible]	2 villages	[illegible] irrigated	
[illegible]	1 village	Do.	
[illegible]	1 village	Do.	
[illegible]	1 village	Do.	
[illegible]	1 village	Do.	

D *Trial of [illegible] in Pink Bollworm controlled areas; and other cotton tracts for [illegible] (in anticipation of Pink Bollworm extension)* —

[illegible] Perso-American will be carried out [illegible] Perso-American [illegible] Government farms [illegible] areas. [illegible] plant height, [illegible] will be taken for each [illegible]

Similar [illegible] will be [illegible] and their [illegible] will be [illegible]

Places —[illegible] Farm, [illegible]
[illegible] Farm.
[illegible] Farm.
[illegible] Farm.
[illegible] Farm.
[illegible] Farm.
[illegible] Farm.

E *[illegible]* —

The [illegible] United Provinces [illegible]

Part I.—Detailed Programme of Work—Tabulated Statement.

A. Purification and detailed examination of the survey material.

(*a*) *For selection of approved types for particular areas.*

Source of material and year of collection.	Original No. of single plant collections.	Stage of test during kharif 1937.	I year of scheme 1938.	II year of scheme 1939.	III year of scheme 1940.	IV year of scheme 1941.	V year of scheme 1942.	Remarks.
Budaun, Bareilly, Moradabad, Naini Tal (Kashipur and Bazpur) districts and Rampur State in 1933 ..	5,032	50 strains in single row replicated progeny trials for the II year.	About 20 desirable strains to be tested with local *Desi* as control in 4 row replicated trials.	8–10 promising strains with a control to be put in rigid replicated trials in 1/50th acre.	Trials to be repeated and small scale multiplication of a few of the best strains to be undertaken.	Trials to be repeated and seed of promising varieties to be issued to other departmental farms for trials.	Large scale multiplication of the best types for seed purposes.	Trials to be carried out at Cawnpore, Raya, Nagina and Atarra.
Hamirpur, Banda, Jhansi districts and Charkhari, Ajaigarh, Panna, Chattarpur and Alipura States in 1934	6,228							
Naini Tal, Moradabad and Bijnor districts in 1935 ..	5,919	60 strains in single row replicated trials for the I year.	About 30 strains with a control in single row replicated trials for the II year.	15 selected strains with local control in 4 row replicated trials.	6-8 strains with a control in rigid replicated trials in 1/50th acre plots.	Trials to be repeated and small scale multiplication of a few promising strains to be taken up.	Trials to be repeated and seed of promising varieties to be issued to other departmental farms for trials.	Trials to be carried out at Cawnpore, Raya, Nagina and Atarra.
Bijnor district, Jalaun, Unao, Dadergarh, Nandigam, Seonda, Jattara and Dattia State in 1936	5,736	610 strains sown in single row for I year.	275 single plant selections to be grown in single rows of 50 plants each.	About 60 strains with a control to be tested in single row replicated trials.	30 strains with a control in single row replicated trials for II year.	15 strains with a control in 4 row replicated trials.	6–8 strains and a control in rigid replicated trials.	Trials to be carried out at Cawnpore, Raya, Nagina and Atarra.
Hardoi district in 1937 ..	2,000	Collection of material from the cultivators' fields.	About 500 single plant collections to be grown in single rows at Cawnpore.	About 200 to be grown in single rows of 50 plants each.	About 60 strains with a control to be tested in single row replicated trials.	About 30 strains with a control in single row replicated trials.	15 strains with a control in 4 row replicated trials	Trials to be carried out at Cawnpore, Raya, Nagina and Atarra.

(*b*) *As parents in hybridizing for obtaining suitable types of longer staple.*

Programme for this will be submitted later when the survey material is fully studied.

B Further improvements in C 402 and C 520

Hutchinson has indicated that further improvements in C 402 and C 520 can be effected by selection within the supposed pure strains Further isolation of their progenies will, therefore, be taken up as under —

	Stage of test during 1937	I year of scheme	II year of scheme	III year of scheme	IV year of scheme.	V year of scheme	Remarks
C 402	20 pure strains selected on basis of lint length and ginning percentage were sown in 100 plots	4 row replicated trial of 15 selected strains to be conducted with C 402 as control	6 9 strains each in 1/50 acre plots to be tested in replicated trials	Trial to be repeated and some promising strains to be multiplied on a small scale	Trials to be repeated and issue of suitable seed to other departmental farms for trials	Large scale multiplication of best types	Trials to be carried out at Cawnpore, Raya, Nagina and Atarra and selections to be made on basis of lint length ginning percentage, yield and field behaviour
C 520	10 pure strains sown as above	4 row replicated trial of 10 strains with C 520 as control	4 6 strains to be tested as above	Do	Do	Do	Do

ENCLOSURE II.

Part 1.

Staff and contingent expenditure requirements for 5 years commencing 1st April 1938.

Particulars.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
RECURRING.						
Staff, leave salary, Provident Fund contributions.						
Headquarters of E.B., Cotton, Cawnpore.						
1 Senior Assistant .. (150—10—200).	1,800	1,920	2,040	2,160	2,280	10,200
1 Technological Assistant (160—10—200).	1,920	2,040	2,160	2,280	2,400	10,800
1 Laboratory Assistant. (30—1/2—35).	360	366	372	378	384	1,860
2 Kamdars (literate) to be deputed at places of heavy work .. .. (20-1/2-23-1-30).	480	492	504	516	528	2,520
Raya Farm.						
Senior Assistant .. (150—10—200).	1,800	1,920	2,040	2,160	2,280	10,200
1 Laboratory Assistant (12—1/2—15).	144	150	156	162	168	780
Nagina Sub-Station.						
1 Field Attendant .. (12—1/2—15).	144	150	156	162	168	780
Atarra Sub-Station.						
1 Field Attendant .. (12—1/2—15).	144	150	156	162	168	780
Leave Salary	295	295	295	295	295	1,475
Provident Fund contribution.	552	588	624	660	696	3,120
Travelling Allowance.						
For Economic Botanist Cotton (Additional) ..	1,000	1,000	1,000	1,000	1,000	5,000
For Assistants	750	750	750	750	750	3,750
Contingencies.						
Cost of Field experiments.	2,000	2,000	2,000	2,000	2,000	10,000
Research farm contingencies for Cawnpore, Nagina and Atarra (additional).	1,500	1,500	1,500	1,500	1,500	7,500
Apparatus for Cawnpore and sub-stations ..	350	350	350	350	350	1,750
Miscellaneous for office contingencies	600	600	600	600	600	3,000
Total recurring ..	13,839	14,271	14,703	15,135	15,567	73,515

ENCLOSURE II (*contd.*)

Part I—(contd.)

Staff and contingent expenditure requirements for five years commencing from 1st April 1938—(*contd.*)

Particulars	First year	Second year	Third year	Fourth year	Fifth year	Total
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
NON RECURRING						
Cawnpore						
Calculating machine	1 000					1 000
Apparatus for spinning and testing fibre length	1 000					1 0[illegible]
Meteorological instruments and miscellaneous apparatus	500					50[illegible]
Raya						
Meteorological instruments and miscellaneous apparatus	500					50[illegible]
Nagina						
Laboratory benches balances, slide rule microscope and other apparatus	700					70[illegible]
Atarra						
Laboratory benches and apparatus meteorological instruments microscope etc.	900					[illegible]
Total Non recurring	4 600					[illegible]

Note—Details to be submitted [illegible]

SUMMARY

Part I

	First year	Second year	Third year	Fourth year	Fifth year
Recurring expenditure Rs	13 839	14 271	14 701	15 135	1 [illegible]
Non recurring expenditure	4 600				
Grand Total Rs	18 43[illegible]	14 271	14 7[illegible]	15 13[illegible]	1[illegible]

ENCLOSURE II

Part II

Staff requirements for five years [illegible] from 1st April 19[illegible]

Particulars	First year	Second year	Third year	Fourth year	[illegible]
	Rs.	Rs.	Rs.	Rs.	
RECURRING					
Staff leave salary and Provident Fund contribution					
Headquarters of E. P. Cotton, Cawnpore					
1 Statistical Assistant (110—5—1[illegible]0)	[illegible]	[illegible]	1 440	1[illegible]	
2 Kamdars (literate) to be deputed at places of heavy work ([illegible]-1[illegible]-23-1[illegible]30)	[illegible]	[illegible]	504		
Provident Fund contribution	[illegible]	[illegible]	144		
Leave salary	[illegible]	[illegible]	[illegible]		
Travelling Allowance					
For Economic [illegible] Cotton (Additional)		[illegible]	[illegible]		
For Assistants		[illegible]	[illegible]		
Total Recurring	[illegible]	2[illegible]	[illegible]		

Note—[illegible] made for contingent expenditure [illegible]

SUMMARY.

Part I & Part II.

Particulars.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Total.
Recurring expenditure Part I .. .. Rs.	13,839	14,271	14,703	15,135	15,567	73,515
Recurring expenditure Part II .. .. Rs.	2,497	2,575	2,653	2,731	2,809	13,265
Total .. .. Rs.	16,336	16,846	17,356	17,866	18,376	86,780
Non-recurring expenditure Part I .. .. Rs.	4,600	..	..	..	..	4,600
Grand Total .. Rs.	20,936	16,846	17,356	17,866	18,376	91,380

ENCLOSURE III.

The staff and facilities included in the entire scheme and the source of provision.

	To be provided by.	To be provided by.
(1) *Research and Field Staff :—*		
Headquarters, Cawnpore.		
Economic Botanist		U. P. Government.
1 Senior Assistant	Indian Central Cotton Committee.	
1 Technological Assistant	Do.	
1 Statistical Assistant	Do.	
1 Field Attendant		Do.
2 Laboratory Assistants	Do.	
1 Laboratory Attendant		Do.
4 Kamdars (literate)	Do.	
Ministerial staff		Do.
Menial staff		Do.
Farm staff (shared with Economic Botanist, Oilseeds)		Do.
Raya Farm, Muttra :—		
1 Senior Assistant	Do.	
1 Laboratory Attendant	Do.	
Farm Superintendent, Asstt. Farm Superintendent .. .., Overseer .. .., Fieldmen .. (Assist also in experiments.)		Do.
Clerk		Do.
Nagina Sub-station :—		
1 Botanical Assistant	Do.	
1 Field Attendant		Do.
Farm Staff (Part)		Do.
Atarra Sub-station :—		
1 Botanical Assistant	Do.	
1 Field Attendant		Do.
Farm staff (Part)		Do.
Cultivators' field trials. Circle staff		Do.

ENCLOSURE III—*(contd)*

The staff and facilities included in the entire scheme and the source of provision—*(contd)*

	To be provided by	To be provided by
2. *Travelling allowances*		
Economic Botanist and present staff		
General		U P Government
Additional	Indian Central Cotton Committee	
Indian Central Cotton Committee staff	Do	
3 *Contingent Expenditure*		
Research Farms Normal		Do
Additional	Do	
Chemicals and apparatus, etc, Normal		Do
Additional	Do	
Miscellaneous office contingencies Normal		Do
Additional	Do	
4 *Laboratories and Major Apparatus*		
Cawnpore		
Existing laboratory and equipment		Do
Additional accommodation		Do
Calculating machine, Technological instruments, etc ..	Do	
Raja —		
Conversion of building to laboratory		Do
Equipment ..	Do	
Nagina —		
Construction of laboratory		Do
Equipment and Furnishing	Do	
Atarra —		
Conversion to laboratory		Do
Furnishing and equipment	Do	
5 *Farms* —		
Cawnpore		
12 to 15 acres annually under cotton experiment		Do
Raya (Muttra)		
40 acres annually under cotton experiment and multiplication ..		Do
Nagina (Bijnor)		
10 acres to be reserved for cotton research		Do
Atarra (Banda)		
10 acres to be reserved for cotton research		Do
6 *Cultivators Field Trials*		
Cost of experiment Rs. 2 000 per annum	Do	

APPENDIX VIII.

SUBJECT 41.—*Summary of Proceedings of the Standing Finance Sub-Committee.*

(a) *Balance Sheet.*

(b) *Financial Statement.*

(c) *Revised Estimates,* 1937-38.

(d) *Budget,* 1938-39.

(e) *Auditors' Fees.*

Four meetings of the Sub-Committee were held since the last meeting of the Committee in August 1937. Messrs. G. C. R. Coleridge and S. B. Samoilys have since resigned from the Committee and the question of filling their vacancies will be taken up after the appointment of their successors.

2. Non-official members of the Committee are, under the Rules, paid travelling allowance from their usual places of residence for attending the meetings of the Committee. On a reference from Mr. Balak Ram, the Punjab Commercial representative on the Committee, who claimed travelling allowance from Srinagar (Kashmir), his summer residence, to Bombay to attend the meetings of the Committee held in August last, the Sub-Committee decided that non-official members should be paid travelling allowance from their headquarters or from the place from which the journey was actually made to attend the meetings of the Committee, whichever was nearer.

3. The Sub-Committee considered the question of starting schemes sanctioned by the Committee at its meeting held in August 1937 according to their relative importance and sanctioned the following order of priority :—

Extension Schemes :—

(1) Plant Puller Propaganda Scheme in Baroda—Rs. 15,123 over a period of two years from January 1938.

(2) Joint Scheme for the estimation of effects on the cotton crop of the use of plant puller in the Bombay Presidency and Baroda State—Rs. 2,369 from 1st December 1937 to 31st May 1938.

(3) Hyderabad Pink and Spotted Boll-worm Scheme (research part) for a further period of one year from 1st October 1937 to the 30th September 1938, at a net additional cost of Rs. 10,579.

(4) Deccan Canals (Banilla) Scheme—Extension of the leased area by 60 acres involving an additional expenditure of Rs. 205.

New Research Schemes :—

(1) Scheme for Cotton Jassid Investigation in Sind—Rs. 10,571 spread over a period of 3 years and 6 months.

(2) Scheme for the maintenance of nucleus of pure seed of all varieties of cotton in Bombay and Sind—Rs. 2,660 per annum in the case of Bombay and Rs. 2,500 per annum in the case of Sind.

4. On a reference from the Director of Agriculture, Punjab, the Sub-Committee considered the question of the payment of arrears of Provident Fund subscriptions after the termination of a member's service from the Committee and decided that no employee of the Committee should be permitted to make any contributions to the Provident Fund for his past services as an employee of the Committee after the termination of his services.

5. The Technological Research Sub-Committee at its meeting in August last considered the question of fixing charges for tests on foreign cottons supplied by firms in India and decided that a separate schedule on a higher basis should be drawn up for such tests by the Director, Technological Laboratory, and submitted to the Committee for approval. The Sub-Committee considered and approved the recommendation of the Director, Technological Laboratory, that the revised charges sanctioned by the Committee at its last meeting for the various tests carried out at the Laboratory should be applied, with an addition of 25% to foreign cottons supplied by firms in India.

6. In pursuance of the Resolution passed by the Committee at its last meeting, the Sub-Committee examined the question of effecting economies in the establishment charges of the Secretary's office and decided that no scope for reduction existed. Its further recommendations regarding the procedure to be followed in

connection with the research schemes of the Committee are contained in the following resolution which was passed unanimously by the Sub Committee —

"That the Standing Finance Sub Committee, having considered the reference made to them by

Committee feel that there is no necessity to have any fear on the score of finance in so far as the commitments of the Committee up to date are concerned

As it might possibly be necessary to consider extensions of schemes at either meeting of the full Committee the Sub Committee further recommend that the previous part of this resolution should not in any way prevent consideration of such schemes at the most suitable time

This also forms a separate subject on the agenda of the Committee

7 On a reference from the Director of Agriculture, Madras, the Sub Committee considered the question whether periods spent on leave by servants of the Committee employed in provincial schemes could count for increments, and decided that the Government of India rules which allowed this concession should apply in *such cases*

excess was proposed to be met from the unexpended cash balance of the *remittances* made during 1936 37 and part by re appropriation from the future years' grant for the scheme

The Sub Committee, however, only sanctioned the utilisation of the unexpended cash balance of Rs 2 947 14 8 from the savings of 1936 37, expressing its disapproval of the practice of drawing on the grants of future years to *meet excess expenditure* in past years.

9 The Sub Committee considered the question of the appointment of auditors for the Committee's accounts for the year 1938 39 and decided to appoint Messrs S B Billimoria & Co as the Committee's auditors for the year 1938 39 at a remuneration of Rs 750 per annum

10 A Balance Sheet* of the audited accounts of the Committee's funds and of the Provident Fund as on the 30th September 1937 and also the Financial Statement* as on 31st December 1937 are attached for information Rs 15,15 849 4 2 of the

of the securities

11 ... and Expenditure for the current financial

... against Rs 4,000 in August last ... expenditure for the current year is now estimated at *Rs 11,22 020 as against* Rs 11 91 246 ... last, the decrease of Rs 69,226 being chiefly due to savings as detail ... Estimates The closing balance (excluding recoverable ... Rs. 12 083 12 10 at the end of the current year will remain ... as compared with Rs 23,83,988 5 0 at the end of last year

* Not printed

12. The draft budget* for 1938-39 is also submitted for approval. The estimates of receipts from the cotton cess have been shown at the same figure as last year, *viz.*, Rs. 6,50,000. Interest has been reduced from Rs. 1,07,300 to Rs. 1,02,000 owing to the sale of some of the securities which will be necessary to meet current expenditure.

The budget will need revision when final decisions are arrived at on some of the proposals under consideration at this meeting of the Committee. The profits that might be realised on sale of securities have not been taken into account in arriving at the above estimates.

13. The Local Sub-Committee at its meeting held in November 1937 decided that it was absolutely essential to have the statistics of the arrivals of cotton into Bombay by motor lorry and that the Bombay Government should be requested to make arrangements for the collection of these figures even if the Tobacco Department's duty of examining the road traffic were not retained. On a reference on the subject from the East India Cotton Association, the Sub-Committee decided that the Indian Central Cotton Committee should be prepared to make necessary contribution towards the cost of collecting the above statistics in the event of such a proposal being made by Government.

14. At its meeting held on the 15th January 1938 the Sub-Committee considered the question of the extension of the appointment of the Publicity Officer beyond the date of expiry of his present contract on the 31st May 1938 and the following resolution was passed :—

> "The Sub-Committee feel that as the Publicity Section costs nearly Rs. 3,000 a month, a cheaper method of publicity should be devised and examined by the Committee before the Publicity Officer is given any new contract. The Sub-Committee is further of the opinion that unless the policy of the Committee in respect of the schemes financed by it undergoes a substantial change, it is doubtful if there would be enough work left for a special officer in charge of Publicity and Propaganda."

15. The Audit Reports for 1935 on the Hubli and Gadag Co-operative Cotton Sale Societies were considered by the Sub-Committee and the following resolution was passed unanimously :—

> "The Sub-Committee is of the opinion that the state of affairs brought out in the Audit Reports is extremely unsatisfactory. The Director of Agriculture, Bombay, should be requested to take steps to recover the money due to the Committee by the Hubli and Gadag Societies, and if no satisfactory way is shown within a reasonable time, the matter should be placed before the full Committee for consideration whether further assistance to these Societies should not be stopped in the first instance and necessary steps taken to recover the amounts outstanding."

16. The following procedure for accounting the grants of the Committee for the scheme for the extension of long staple cotton and marketing of Verum cotton in Central Provinces and Berar, as suggested by the Central Provinces Government was considered and approved by the Sub-Committee :—

(1) That the officials lent to the Committee be treated as on regular foreign service under Fundamental Rule 110,

(2) that their substantive pay as well as their deputation allowances, etc., should in the *first* instance be met by the Committee by debiting the charges to the Special Deposit Account,

(3) that this Government should bear the cost of the pay of the substitutes appointed in their place, and

(4) that at the end of the year this Government should make a grant to the Committee—representing the difference in cost between the substantive pay of the lent officials and the pay of the substitutes appointed in their place, the amount being debited to a contribution head under 'Agriculture—Provincial' and credited to the Special Deposit Account.

* Not printed.

APPENDIX IX.

SUBJECT 59 —*Wide parity between Broach and American Cotton in 1936 37— Reference from Local Sub Committee*

(EXTRACT)

Copy of letter No 2211-H 436, dated the 29th December 1937, from the Secretary, East India Cotton Association, Ltd, Bombay, to the Secretary, Indian Central Cotton Committee, Bombay

Re *Wide Parity between Broach and American Cottons*

I am instructed by my Board to reply to the correspondence ending with your letter, dated 30th November 1937

You first raised the question by your letter of the 5th April 1937 and by your letter No 4516, dated 20th April 1937, explained in detail the idea underlying the inquiry made by you in your said letter. I will reply to the four heads, raised by you, seriatim

(2) The reply is in the affirmative and I beg to comment on it as under —

City in smaller units for the contract, etc

My Board are of the opinion that the Government of Bombay in exercise of the powers vested in them under Section 3 of the Bombay Cotton Control Act of 1935 should prohibit cultivation of Goghari cotton mixing of Goghari cotton with any other cotton and the possession or use of or trade in Goghari cotton

would decline

(3) The reply is in the affirmative and the Director of Agriculture, Bombay, has correspondence in this respect on his file

(1) & (4) It is very necessary to have a clear idea of what is meant by 'Parity' which is so freely used in this question and about which there is so much confusion and vain discussion

To begin with, the basic tenderable cotton for the American contract is ⅞" in staple ... inst Broach Contract is ... ferent in quality and ... nce in price between ... 'parity.'

It is popularly assumed that this difference should be a certain figure and it is spoken of as a normal 'parity'. In discussions about parity, the popular mind has ...

To begin with, the arbitrary assumption of a "fixed" or "normal" difference is in itself ... is norm ... of these ... qualities ... 1936 37 ... American 4F cotton was exceedingly poor, as the old crop stocks of 4F and ... ras were used by the mills instead This explains both the low basis of the tenderable qualities and the low contract price of Broach as compared to American

As against this, since the beginning of the year up to April 1937 there was a shorter supply in relation to the very keen demand from everywhere for $\frac{7}{8}''$ to 1" staple cotton, which is the basic quality of the American contract. This fundamental fact underlies the wide parity between the American and the Broach contract referred to in your letter of 5th April 1937. No doubt, other factors such as the deterioration of the Broach staple played their part in the widening of the parity. It is true that the improvement in the Broach staple would lead to an improvement in the relative price of the Broach contract which is the barometer of Indian prices, but the fluctuations in its parity with Americans, depending on the factors of supply and demand of the two basic qualities, cannot be eliminated.

It would be relevant to point out that within a few months from your letter of 5th April 1937 and at the moment of writing, we are witnessing an exactly opposite situation—an extreme narrowing of parity between the American and the Broach contracts. Again, looking to the factors of demand and supply for explanation it will be found that there is a huge over-production and over-supply of $\frac{7}{8}''$ to 1" staple in America. There is a very good demand from trade quarters of good staple Broach and 4F Sind and Punjab cotton, which are the basic qualities of the Broach contract, coupled with the scarcity of these cottons. Bearing in mind the factors of demand and supply both the situations in April 1937 and the present one are understandable and appear to be quite natural. The conclusion, therefore, is that there is no "normal" or "fixed" parity between the Broach and the American contracts, and any inquiry or discussion which is based upon an arbitrary assumption of a "normal" or "fixed" parity difference would be misleading and futile. In fact, fluctuations in the parity difference between the Broach and the Americans should be looked upon as a normal occurrence in the cotton market.

With regard to the basis of long staple cotton such as Surats, Navsari and Sind and Punjab—N.T. and 289F—I would point out that we had a carry-over from the previous season of desirable staples which had a depressing effect on the basis of these staples in the early part of the 1936-37 season. This led to the new crop finding an export outlet owing to the keen demand for $\frac{7}{8}''$ to 1" staple in those markets. As soon as the old crop was taken up by our mills, the basis of these cottons advanced and were maintained throughout the rest of the season. As requested by you, a table showing the relative basis compared with the previous three seasons is enclosed.

DIFFERENCES BETWEEN THE FOLLOWING STANDARDS FOR TENDERS AGAINST THE BROACH HEDGE CONTRACT

BROACH CONTRACT—Basis-F G Broach	1933-34	1934-35	1935-36	1936-37
Punjab American				
April May	Rs 6 on 11 on 9 on	Rs 21 on 12 on 30 on	Rs 10 on 12 on 10 on 12 on 11 on	Rs 9 on 8 on 7 on 8 on
July August	Rs 8 on 7 on 10 on 7 on	Rs 30 on 21 on	Rs 10 on 8 on	Rs. 12 on 10 on 12 on 14 on
Surat				
April May	Rs 62 on 61 on 59 on 60 on 59 on	Rs 76 on 83 on 70 on	Rs 12 on 30 on	Rs 65 on 62 on 61 on 59 on
July August	Rs 59 on 58 on	Rs 70 on 83 on 72 on 71 on 72 on	Rs 35 on 33 on	Rs 58 on 52 on
Navsari				
April May	Rs 64 on 66 on 61 on 62 on 61 on	Rs 81 on 8[illegible] on 7[illegible] on	Rs 17 on 45 on 18 on 1[illegible] on	Rs 75 on 72 on 71 on 6[illegible] on
July August	Rs 61 on 60 on	Rs 75 on 71 on 77 on 76 on 77 on	Rs 41 on 39 on	Rs 70 on 62 on

(Signed) C M PARIKH,
Secretary The East India Cotton Association, Ltd